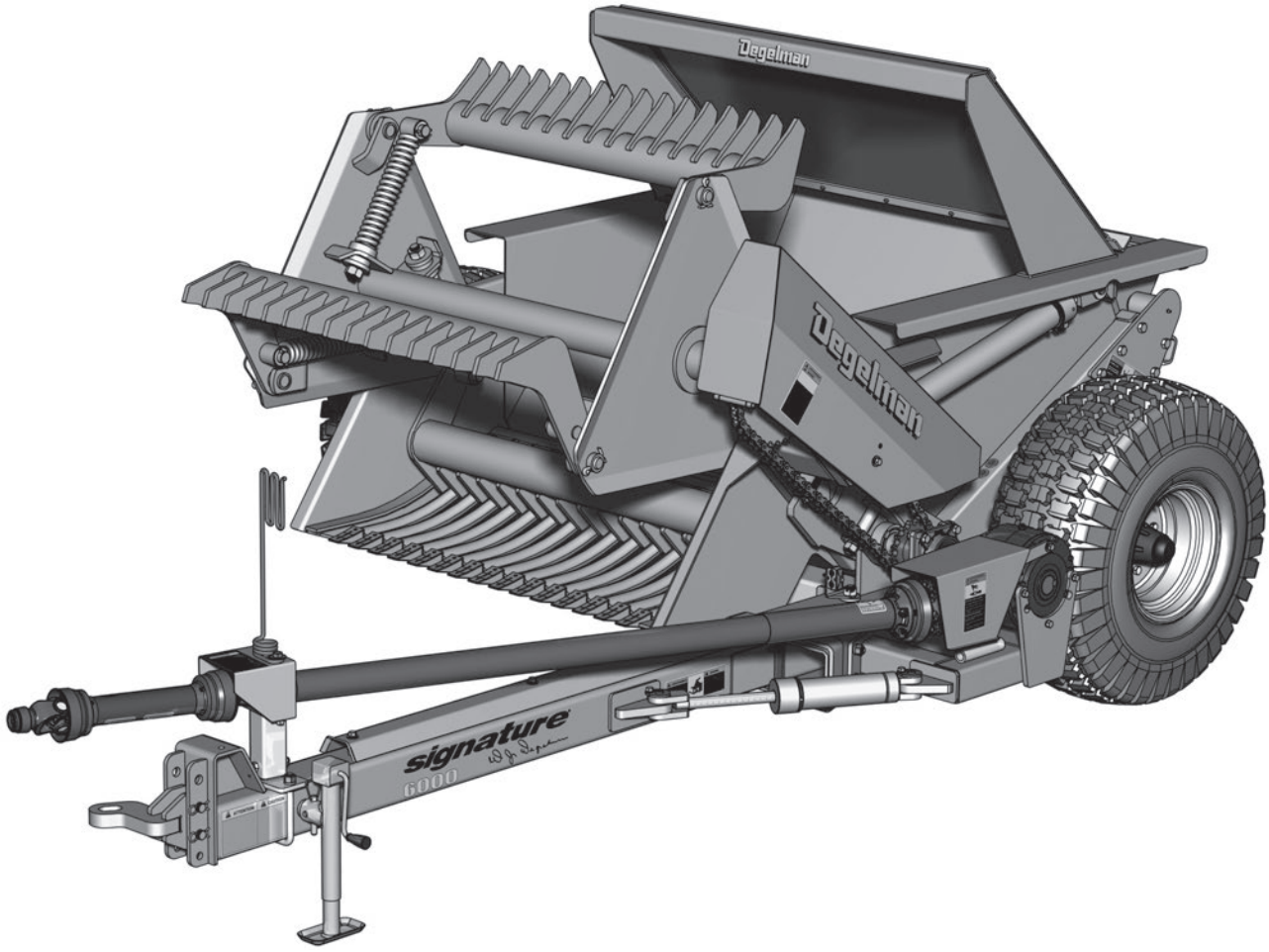
Degelman

OPERATOR & PARTS MANUAL

signature®

6000/7200



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IMPORTANT:

READ MANUAL

Introduction

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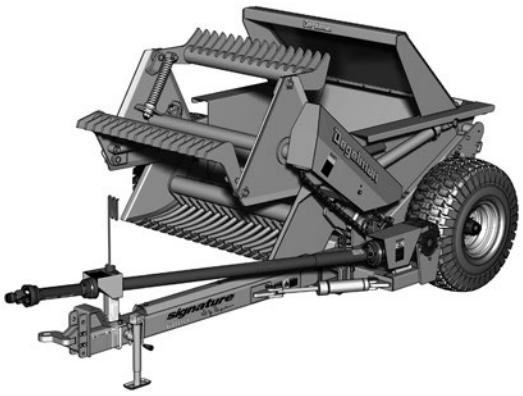
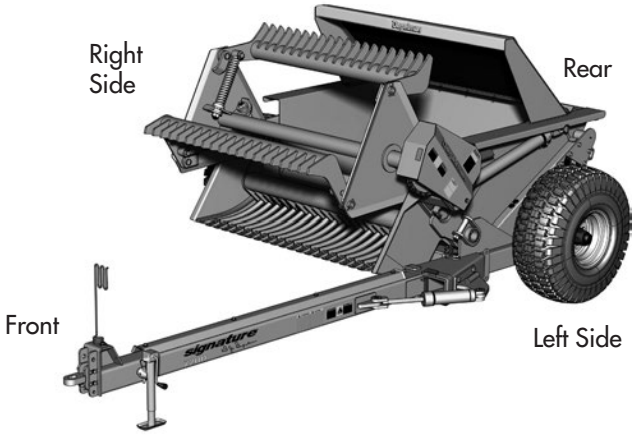


CONGRATULATIONS Congratulations on your choice of a Degelman Signature Series 6000 or 7200 Rock Picker to complement your farming operation. It has been designed and manufactured to meet the needs of a discerning Agricultural market for the efficient picking of rocks. Use this manual as your first source of information about this machine. If you follow the instructions given in this manual, your machine will work well for many years.

Safe, efficient and trouble free operation of your Degelman Rock Picker requires that you and anyone else who will be operating or maintaining the Picker, read and understand the Safety, Operation, Maintenance and Troubleshooting information contained within this Manual.

Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Degelman Dealer if you need assistance, information or additional copies of the manual.

OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout the manual, are as seen from the tractor drivers' seat and facing in the direction of travel.



Why is SAFETY important to YOU?

3 BIG Reasons:

- **Accidents Can Disable and Kill**
- **Accidents Are Costly**
- **Accidents Can Be Avoided**

SAFETY ALERT SYMBOL

The **Safety Alert Symbol** identifies important safety messages applied to the Rock Picker and in this manual. When you see this symbol, be alert to the possibility of **injury or death**. Follow the instructions provided on the safety messages.

The **Safety Alert Symbol** means:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

SIGNAL WORDS

Note the use of the Signal Words: **DANGER**, **WARNING**, and **CAUTION** with the safety messages. The appropriate Signal Word has been selected using the following guidelines:

DANGER — **DANGER:** Indicates an imminently hazardous situation that, if not avoided, **WILL** result in death or serious injury if proper precautions are not taken.

WARNING — **WARNING:** Indicates a potentially hazardous situation that, if not avoided, **COULD** result in death or serious injury if proper precautions are not taken.

CAUTION — **CAUTION:** Indicates a potentially hazardous situation that, if not avoided, **MAY** result in minor or moderate injury if proper practices are not taken, or, serves as a reminder to follow appropriate safety practices.

SAFETY

YOU are responsible for the safe operation and maintenance of your Degelman Rock Picker. **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the Rock Picker be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual.
This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be adhered to while operating this equipment.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Rock Picker owners must give operating instructions to operators or employees before allowing them to operate the Rock Picker, and at least annually thereafter.
- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. All accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think SAFETY! Work SAFELY!

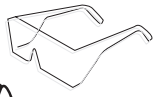
GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining or adjusting the Rock Picker.

2. Install and properly secure all shields and guards before operating. Use hitch pin with a mechanical locking device.
3. Have a first-aid kit available for use should the need arise and know how to use it.

4. Have a fire extinguisher available for use should the need arise and know how to use it.

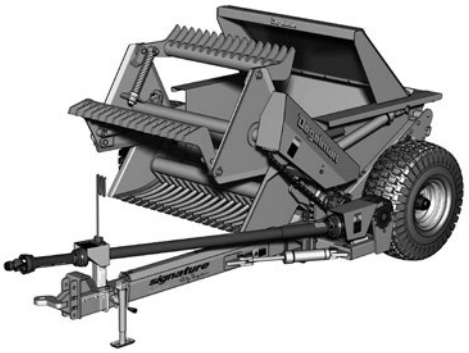
5. Wear appropriate protective gear. This list includes but is not limited to:
   - A hard hat
   - Protective shoes with slip resistant soles
   - Protective glasses or goggles
   - Heavy gloves
   - Wet weather gear
   - Hearing protection
   - Respirator or filter mask



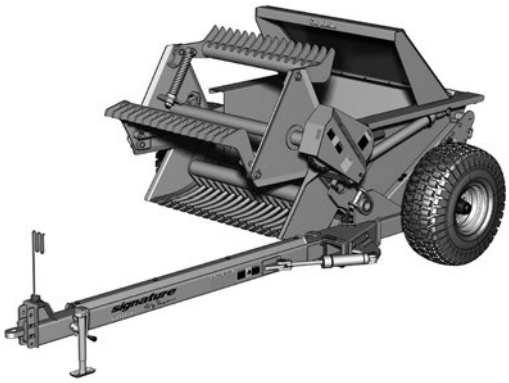
6. Clear the area of people, especially small children, and remove foreign objects from the machine before starting and operating.
7. Do not allow riders.
8. Stop tractor engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
9. Review safety related items with all operators annually.

signature® 6000

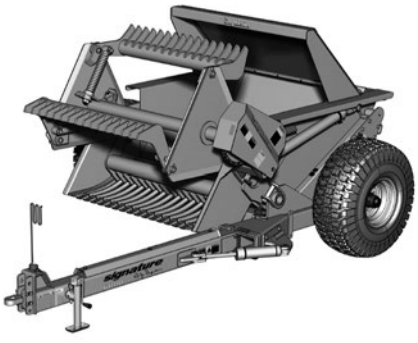
6000 PTO DRIVE (short pole only)



6000 HYDRAULIC DRIVE (standard long pole)

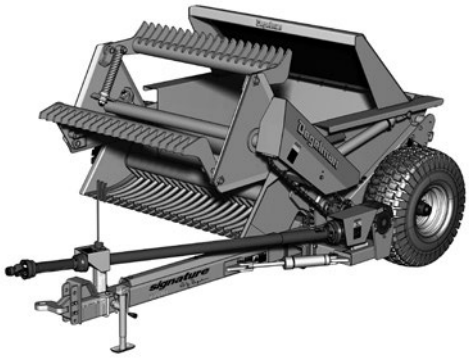


6000 HYDRAULIC DRIVE (short pole option)

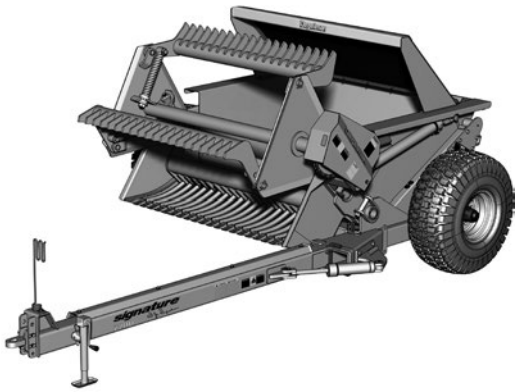


signature® 7200

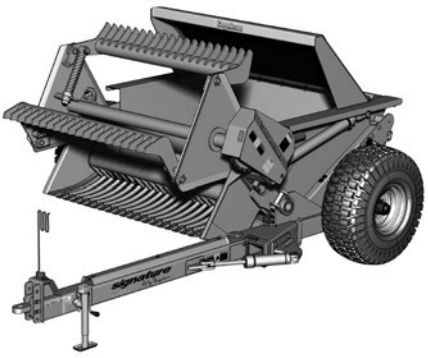
7200 PTO DRIVE (short pole only)



7200 HYDRAULIC DRIVE (standard long pole)



7200 HYDRAULIC DRIVE (short pole option)



Overview

TO THE NEW OPERATOR OR OWNER

The Degelman Signature Series Rock Pickers are designed to efficiently gather rocks from 1-3/4 to 24 inches (45 to 600mm) diameter and debris from fields. Many of the features incorporated into this machine are the result of suggestions made by customers like you.

It is the owner's or operator's responsibility to read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum efficiency. Safety is everyone's business. By following safe operating practices, a safe environment is provided for the operator and bystanders.

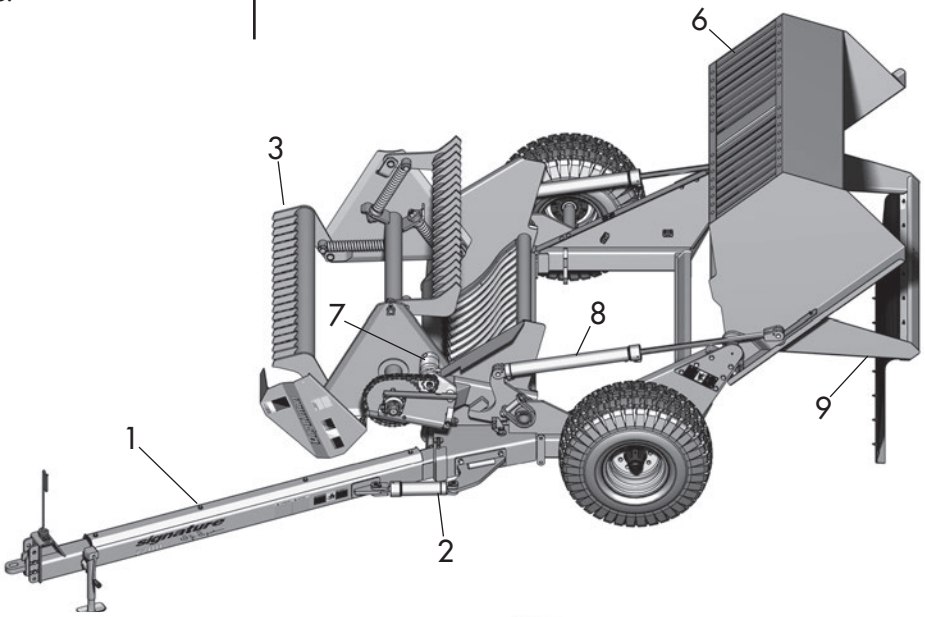
The manual will take you step-by-step through your working day. By following the operating instructions in conjunction with a good maintenance program, your machine will provide many years of trouble-free service.

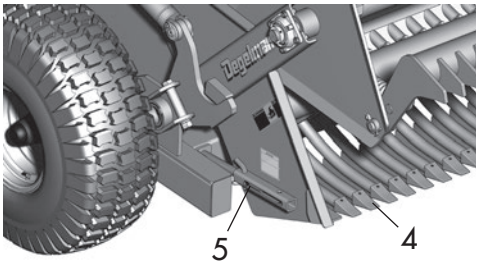
PRINCIPLES OF OPERATION

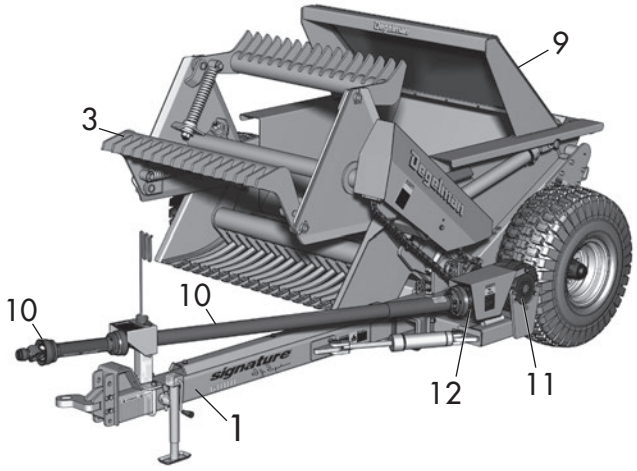
The Rock Picker is a framework of steel bars called a grille that moves along the surface of the ground to gather rocks and debris. A rotating paddle moves along the top of the grille to move the rocks and material into the hopper box. When the hopper box fills, it is emptied by dumping out the back.

Rock Picker Components

1. Hitch Pole
2. Swing Arm Cylinder *(optional)*
3. Paddles
4. Grille
5. Transport Lock
6. Hopper Box
7. Paddle Drive Chain/ Hydraulic Motor
8. Unloading Cylinder
9. Rock Guard
10. PTO Drive Line
11. Gear Box
12. Torque Limiter







⚠ OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before using.
2. Lower grille and hopper box, stop tractor engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
3. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
4. Do not allow riders on the Rock Picker or tractor during operation or transporting.
5. Keep all shields and guards in place when operating.
6. Clear the area of all bystanders, especially children, before starting.
7. Do not operate machine or raise hopper box on steep side hills or slopes.
8. Use a long pole or bar to dislodge material from paddles or grille. Pressure in hydraulic system and paddle spring tension can cause paddles to kick back if they are jammed.
9. Be careful when working around or maintaining a high-pressure hydraulic system. Ensure all components are tight and in good repair before starting.
10. Clean all reflectors, lights and the SMV sign before transporting on a highway or public road. Be sure to check with local highway authorities and comply with their lighting requirements.
11. Stay well back from machine when operating to prevent being hit by flying rocks. Keep others away.
12. Turn to the left when manoeuvring to keep the tractor away from the path of flying rocks.

BREAK-IN

Although there are no operational restrictions on the Rock Picker when it is new, there are some mechanical checks that must be done to ensure the long term integrity of the unit. When using the machine for the first time, follow this procedure:

⚠ **IMPORTANT:** *It is extremely important to follow all of the Break-In procedures especially those listed in the "Before using" section below to avoid damage:*

A. Before using:

1. Read Safety Info. & Operator's Manual.
2. Complete steps in "Pre-Operation Checklist".
3. Lubricate all grease points.
4. Check all bolt tightness.

B. After operating for 2 hours:

1. Retorque wheel bolts.
2. Check all hardware. Tighten as required.
3. Check all hydraulic system connections. Tighten if any are leaking.
4. Tighten chain.

C. After operating for 8 hours:

1. Repeat Step B.
2. Go to the service schedule as outlined in the "Service & Maintenance" section.

PRE-OPERATION CHECKLIST

It is important for both personal safety and maintaining the good mechanical condition of the machine that this pre-operational checklist be followed.

Before operating the machine and each time thereafter, the following areas should be checked off:

- ☐ 1. Lubricate the machine per the schedule outlined in the "Service & Maintenance Section".
- ☐ 2. Use only a tractor of adequate power (70 hp minimum) and weight to carry the Rock Picker.
- ☐ 3. Ensure that the machine is properly attached to the tractor using a drawbar pin with provisions for a mechanical retainer. Make sure that a retainer such as a Klik pin is installed.
- ☐ 4. Ensure that a safety chain on the hitch is installed.
- ☐ 5. Check tires and ensure that they are inflated to the specified pressure: 36 psi (248kPa).
- ☐ 6. Check oil level in the tractor hydraulic reservoir. Top up as required.
- ☐ 7. Inspect all hydraulic lines, hoses, fittings and couplers for tightness. Tighten if there are leaks. Use a clean cloth to wipe any accumulated dirt from the couplers before connecting to the tractor's hydraulic system.
- ☐ 8. Check all roller chains and sprockets for proper alignment and tension. Adjust for tension as required.
- ☐ 9. Inspect all moving and rotating parts. Remove any debris that has become entangled in them.
- ☐ 10. Make sure that all guards and shields are installed and secured in position.
- ☐ 11. Check the paddles, grille and hopper box. Remove any rocks or debris that have become jammed in any of the components.
- ☐ 12. Check the oil level in the gearbox. Top up as required (PTO models).
- ☐ 13. Insure that the PTO driveline is securely attached on both ends and can telescope easily. Check that the PTO driveline shield rotates freely.

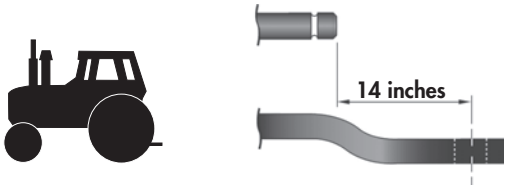
TRACTOR PREPARATION

Follow this procedure when selecting and preparing a tractor for use with the machine:

1. Use only a tractor of sufficient power and weight to adequately handle the machine. It is recommended that the tractor have at least **70 PTO** horsepower for normal operating conditions, **100 PTO** horsepower for hilly conditions. (**Note:** *Tractors with duals are not recommended as the right hand tires push the rocks into the ground.*)
2. It is recommended to pin the drawbar in its centre draft position.
3. Use only a drawbar pin with provisions for a mechanical retainer such as a Klik pin. Always install the retainer.
4. Always attach a safety chain between the tractor and the machine to prevent unexpected separation.
5. It is not recommended to use a tractor that is equipped with duals. The right outer tire will drive over the rocks, push them into the ground and make them difficult to pick up with the grille.

PTO Models

6. The drawbar pin to PTO shaft end dimension should be 14 in. (540 PTO).



⚠ **IMPORTANT:** Do not use on a tractor equipped with a PTO shaft adapter to prevent mismatching of PTO speeds and over telescoping of the driveline.

⚠ **WARNING:** Use extreme care when working around a high pressure hydraulic system. Make sure all connections are tight and all components are in good repair. Wear hand and eye protection when searching for suspected leaks.

HOOK-UP / UNHOOKING

The Rock Picker should always be parked on a level, dry area that is free of debris and foreign objects. Follow this procedure when attaching:

1. Clear the area of bystanders and remove foreign objects from the machine and working area.
2. Make sure there is enough room to back the tractor up to the hitch pole.
3. Start the tractor and slowly back it up to the hitch point.
4. Stop the tractor engine, place all controls in neutral, set park brake and remove ignition key before dismounting.
5. Use the hitch pole jack to raise or lower the pole to align with the drawbar. Ensure that the rock picker hitch pole is parallel to the ground.
6. Install a drawbar pin with provisions for a mechanical retainer such as a Klik pin. Install the retainer.
7. Install a safety chain between the tractor drawbar and the hitch pole.
8. Connect the hydraulics. To connect, proceed as follows:

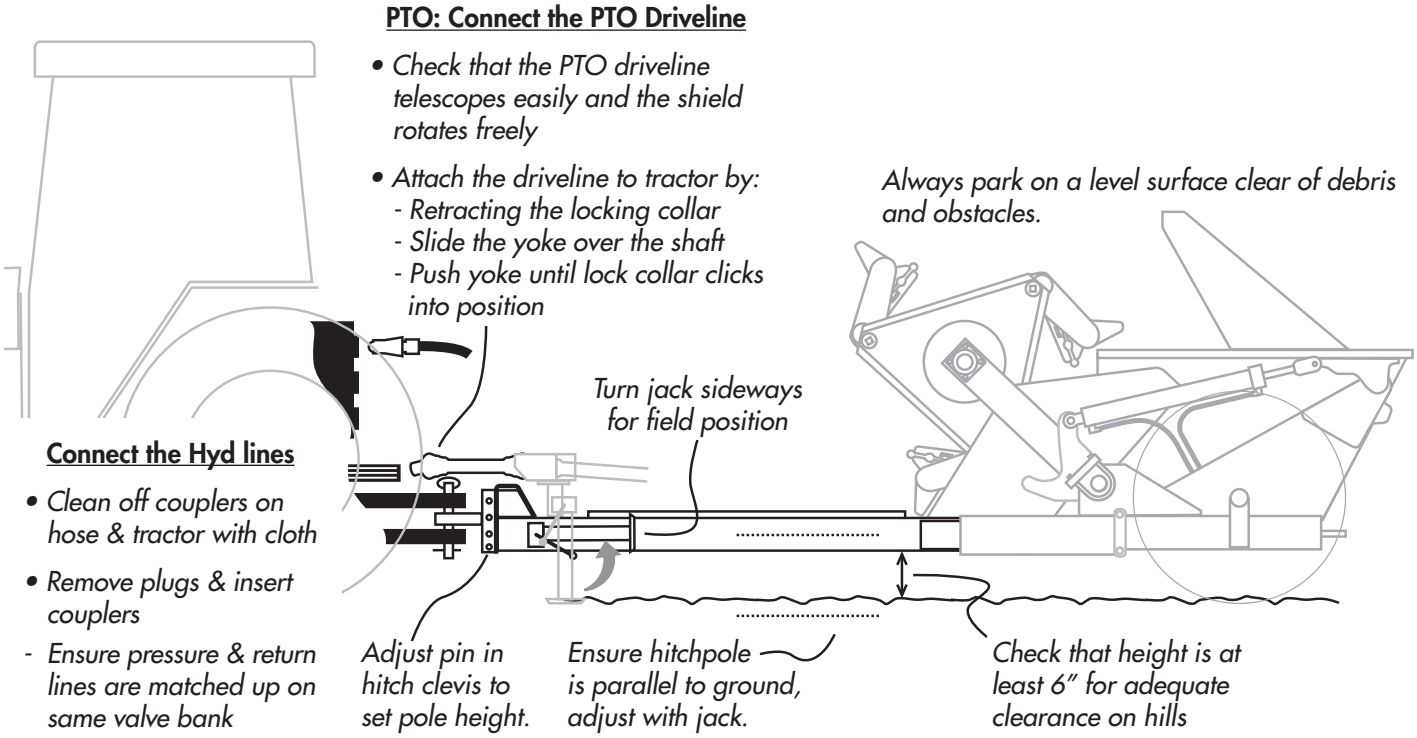
- Use a clean cloth or paper towel to clean the couplers on the ends of the hoses. Also clean the area around the couplers on the tractor.
- Remove the plastic plugs from the couplers and insert the male ends.

NOTE: *If the direction of motion is wrong, reverse the couplers.*

9. PTO Models: Connect PTO driveline to tractor.
10. Raise the hitch jack and rotate it 90° to place in its stowed position.
11. When unhooking from the tractor, reverse the above procedure.

NOTE: *Occasionally air may become trapped in the hydraulic circuit, making it necessary to "bleed" the circuit.*

To perform this operation cycle the hydraulics several times or especially on older tractors, temporarily loosen an easily accessible hose fitting enough to allow any trapped air to escape while cycling the hydraulics. Retighten fitting.


PTO: Connect the PTO Driveline
• Check that the PTO driveline telescopes easily and the shield rotates freely
• Attach the driveline to tractor by:
- Retracting the locking collar
- Slide the yoke over the shaft
- Push yoke until lock collar clicks into position
Always park on a level surface clear of debris and obstacles.
Turn jack sideways for field position
Connect the Hyd lines
• Clean off couplers on hose & tractor with cloth
• Remove plugs & insert couplers
- Ensure pressure & return lines are matched up on same valve bank
Adjust pin in hitch clevis to set pole height.
Ensure hitchpole is parallel to ground, adjust with jack.
Check that height is at least 6" for adequate clearance on hills

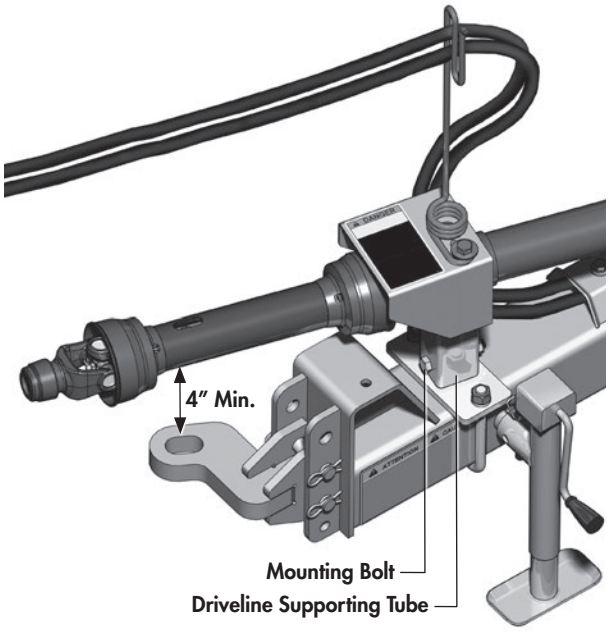
DRIVELINE HEIGHT

(PTO Drive Models)

The clearance between the PTO driveline and the top of the hitch clevis should be at least 4 inches to provide adequate clearance when going over the crest of a hill.

To adjust this clearance, follow this procedure:

1. Attach the machine to tractor by following the "Hook-Up" procedure in the "Operation - Preparation" section.
2. Measure the distance between the driveline and the top of the hitch clevis.
3. If this dimension does not exceed 4 inches, remove the mounting bolt in the driveline support tubing.
4. Raise or lower the unit to give the required distance.
5. Reinstall the mounting bolt in the appropriate matching holes.



HYDRAULIC FLOW CONTROL VALVE

(Optional Hydraulic Drive Models)

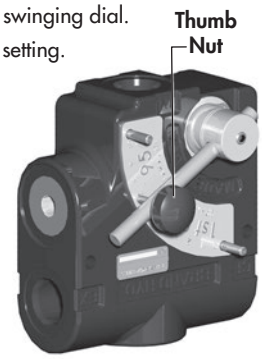
For tractors that are not equipped with a built-in flow control valve, this unit will be necessary to regulate the rate of oil flowing through the picker hydraulic motor which in turn determines the reel/ paddle speed.

The flow control valve in the hydraulic circuit is used to adjust the motor speed. To adjust, follow this procedure:

FLOW CONTROL VALVE ADJUSTMENT

1. Loosen thumb nut on swinging dial.
2. Move dial to desired setting.
3. Tighten thumb nut.

NOTE: Move the dial in small increments as a small movement can result in a dramatic speed change.



ROCK PICKER PREPARATION

1. Hitch Pole "Field/Transport" configuration:

   The hitch pole has a "transport" position that is normally used when the machine is new or when it will be transported for long distances to bring the body of the machine as close behind the tractor as possible.

   The hitch pole must be changed to "field" position before starting to work. "Field" position will swing the body of the machine over to clear the tires of the tractor.

   NOTE: *This Rock Picker has either standard "manual adjustment" or optional "hydraulic adjustment" for positioning the hitch pole.*

   To change to "field" position with the optional simply retract the hitch pole cylinder to its closed position.

   To change positions with **manual adjustment**, follow this procedure:

   a. Remove the hardware shown holding the pole in transport.

   b. "Jack-knife" the pole into field position.

   c. Reinstall the hardware just removed.

   To change positions with **hydraulic adjustment**, follow this procedure:

   a. Remove the hardware shown holding the pole in transport position (shown) and store.

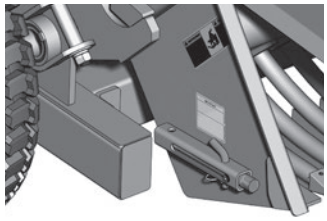
   b. Retract the hitch pole cylinder to its closed position ("field" position).

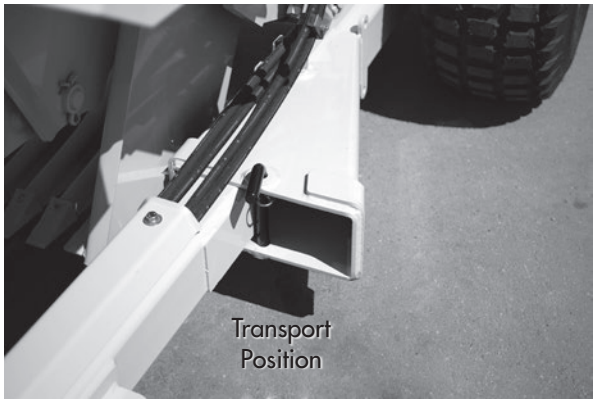
   c. Reverse order for "transport" position.

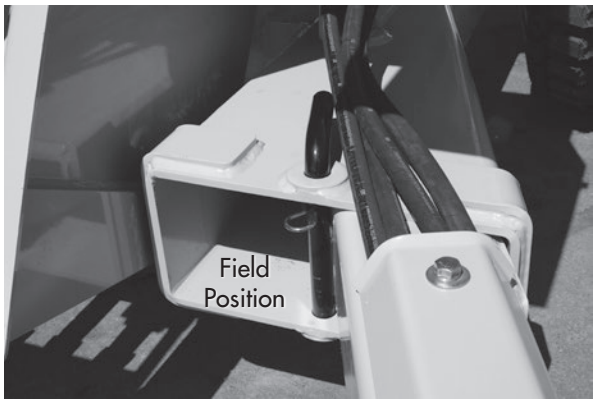
2. Grille Preparation:

   Fully retract the dump cylinder to take the weight of the grille off the red transport pin.

   Remove the red transport lock pin from its transport position.







OPERATING

Refer to these operational hints before starting:

1. **Material size:**

The machine was designed to pick and unload rock and debris ranging in size from 1-3/4 to 24 inches (45 to 600mm) in diameter. Smaller pieces will fall through the spacing in the grille and larger rocks will stall the paddle drive.

2. **Operator's Responsibility:**

Every operator should read this manual and be instructed in safe operating procedures. An untrained operator is not qualified to operate this machine and could place themselves or bystanders in danger.

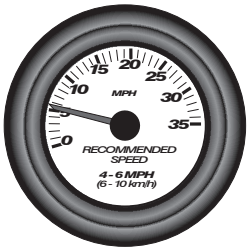
3. **Grille Height:**

The grille should be lowered to allow the front of the teeth to skim the ground surface. This will provide the best gathering angle and allow a minimum amount of dirt being carried into the hopper box.

All rocks should be laying on top of the ground for best results when picking. Rocks that are partially submerged or have been run over by the tractor tire are difficult to pick. In these conditions, the grille can be set to momentarily run below the ground surface in an attempt to pick the rock. However, raise the grille back to skimming the surface to reduce the amount of dirt going into the hopper.

⚠ **IMPORTANT:** *Do not use the Rock Picker grille to pry out deeply buried rock or debris. Grill teeth striking a buried rock will shock the machine and damage it.*

4. **Ground Speed:**



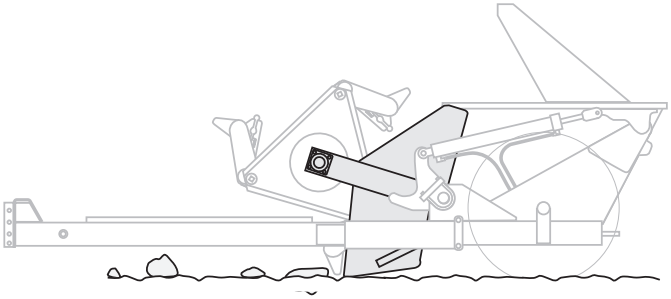
Operating speed will vary according to:

- rock size and density
- whether spot picking or windrow picking

Experience will teach you the correct combination of forward travel speed and reel RPM to suit field conditions:

Normal Operating Speed:
As a rule **4 to 6 MPH** (6 to 10 km/h) is a normal operating speed.

Slow the travel speed when picking heavy rock windrows.



5. **Buried Rocks:**

The machine is only designed to pick up material that is loose and on top of the ground. Lodged or solid objects will shock load the frame of the machine when trying to pick them up and cause failures. They should be dug out by hand and placed on top of the ground.

6. **Reel Speed:**

The purpose of the reel is to sweep the rocks from the front of the grille over the grille framework and into the hopper box. The spring loaded paddles should keep the grille framework clear of rocks by moving them into the hopper.

⚠ **DANGER:** There is a danger that the paddle will catch the rocks and throw them forward if the real speed is too fast.

Spot Picking: Best results are obtained when the reel is running 5% to 40% faster than ground speed.

Windrow Picking: The reel must be allowed to sweep the rocks from the grille even when there are large numbers as in windrows. To control the number of rocks entering the machine, reduce the forward speed.

Hydraulic Drive Models

The reel and paddle speeds are determined by the flow rates through the hydraulic system. Increase or decrease the reel speed by adjusting the *flow control valve* (optional) at the front of hitch pole or by the control valve on the tractor.

⚠ **IMPORTANT:** *When stopping reel always place the tractor hydraulic lever into float position or for tractors not equipped with float position be sure to idle tractor speed down before placing the hydraulics into neutral.*

Never reverse reel direction without first completely stopping reel. Failure to do this will result in costly hydraulic motor damage.

PTO Drive Models

The reel and paddles always run at a constant speed as determined by the PTO input speed and the drive ratios through the gearbox. The ratio of reel speed to ground speed is changed by changing ground speed. Slowing ground speed allows the paddles to sweep over the grille more frequently and clear the rocks. This is particularly important when picking up heavy rock windrows.

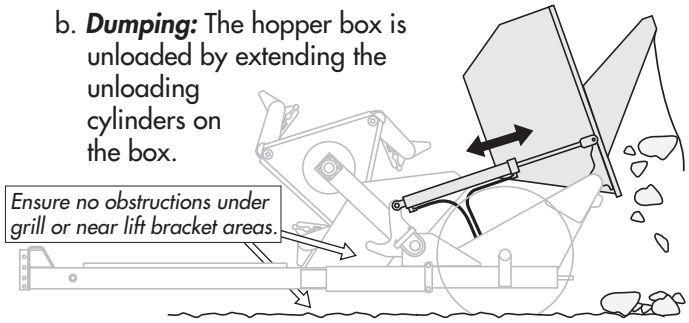
7. **Loading/Dumping:**

a. ***Loading:*** The machine can be loaded until the hopper box is filled and rocks stay on the back edge of the grille. Do not overfill the box as to overflow onto the grill. It is possible that the paddles will carry the rocks over the top of the paddle and throw them out.

When hopper box is full, stop the reel to prevent throwing rocks.

⚠ **DANGER:** *Rocks can be thrown from machine. Stand well clear of machine when operating. Keep others away.*

b. ***Dumping:*** The hopper box is unloaded by extending the unloading cylinders on the box.



- When backing up with a full load, switch the hitchpole back to the transport position. This will prevent damage to the frame.
- Be sure the machine is on level ground when raising the hopper box to unload. Uneven ground conditions can cause the box to tilt and could be dangerous or result in damage to the machine.
- Ensure there are no obstructions below the grille/grate area or the side cylinder lift bracket area when dumping. Obstructions in these areas can cause extreme loading on pins and brackets due to over-extension of the cylinders and result in damage to the machine.

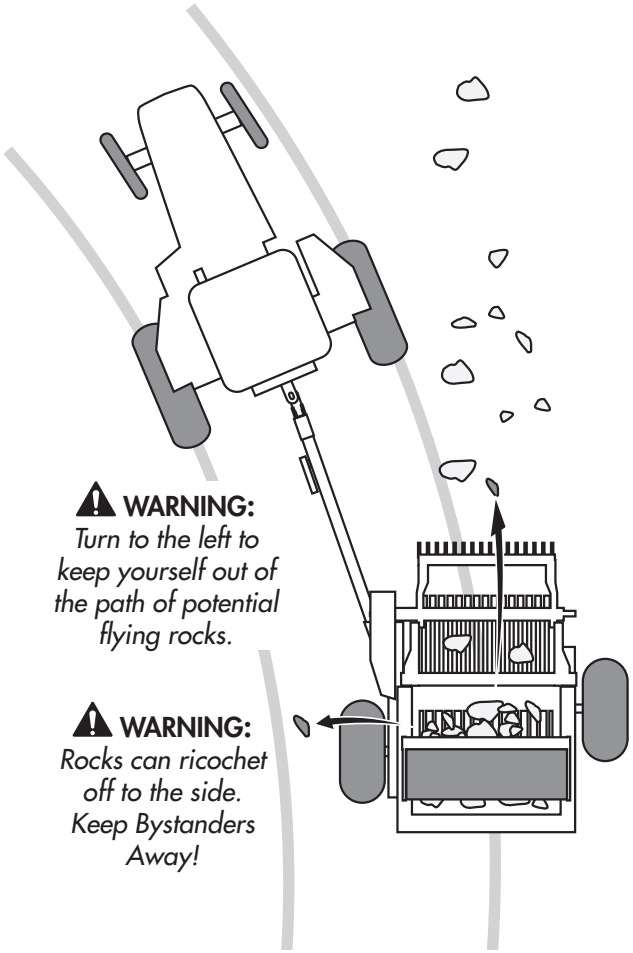
⚠ **WARNING:** *Stay clear of the machine and surrounding area when unloading. Keep others away.*

⚠ **WARNING:** *Ensure there are no obstructions below the grille/grate area or the side cylinder lift bracket areas when dumping.*

8. **Safety Area:**

Always treat the machine with the utmost respect when it is operating. Since the paddles are all loaded with strong springs, they can catch and throw rocks a considerable distance as they move around the reel. Although the most common direction is in the plane of reel motion, they can also hit the frame and bounce off to the sides.

It is recommended that the tractor be turned to the left as much as possible when picking to keep it out of the path of flying rocks. This has the added benefit of eliminating the right hand tractor tire from running over rocks and pushing them into the ground.



⚠ WARNING:
Turn to the left to keep yourself out of the path of potential flying rocks.

⚠ WARNING:
Rocks can ricochet off to the side. Keep Bystanders Away!

9. **Jamming/Unplugging:**

⚠ WARNING: *Never use hands. Never get your head or arms into the machine. Stay clear of the paddle when removing any lodged material. The paddles could kick back from hydraulic pressure or spring tension. Always use a long bar to remove object.*

Small rocks or debris can get jammed between the grille, paddle or frame jamming the reel and stopping it from turning. To unplug, follow these procedures:

a. **<u>Hydraulic Drive Models ONLY</u>**

⚠ IMPORTANT:

<u>Never</u> *reverse reel direction without first completely stopping reel. Failure to do this will result in costly hydraulic motor damage.*

When stopping reel always place the tractor hydraulic lever into float position.

For tractors not equipped with float position be sure to idle tractor speed down before placing the hydraulics into neutral.

- After reel has completely stopped as described above, move the hydraulic control lever the other direction to reverse the hydraulic motor. Reversing the reel will in most cases dislodge the jammed rock.
- If it does not unplug the machine, proceed to Step b.

b. **<u>Hydraulic or PTO Drive Models</u>**

- Lower grille to ground
- Stop tractor engine
- Place all controls in neutral,
- Relieve the pressure in hydraulic system
- Set park brake
- Remove ignition key.
- Use a long pry bar (not hands) to dislodge the material.

⚠ TRANSPORT SAFETY

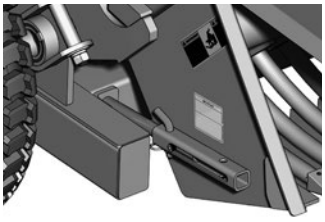
- Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when operating the Rock Picker in the field/yard or on the road.
- Check with local authorities regarding machine transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed. Use caution when making corners or meeting traffic.

- Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
- Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.
- Always use hazard warning flashers on tractor when transporting unless prohibited by law.
- Always use a pin with provisions for a mechanical retainer and a safety chain when attaching to a tractor or towing vehicle.
- Ensure the red transport pin on the grille is in transport position and the swing hitch pole is fully inward and secured before moving on a public road.

TRANSPORTING

Follow this procedure when preparing to transport:

1. Clear the area of bystanders, especially small children, before converting into transport configuration.
2. Raise the grille to its highest position by retracting the hopper box cylinders.
3. Position the red transport pin into transport position and secure pins.



4. Lower the grille to rest on the red pin.
5. Rotate hitchpole jack out of the way and secure with chained pin.
6. Unpin hitchpole.
7. Carefully 'jack-knife' tractor/hitch pole combination into full transport.
8. Reinstall hitchpole pin and secure.
9. Clean the SMV, lights and reflectors.
10. Maintain a safe speed. Slow down when cornering and on rough roads.
11. Slow down and pull off to the side of the road when meeting other traffic.
12. Use hazard flashers on tractor unless prohibited by law.

Storage

⚠ STORAGE SAFETY

- Store unit in an area away from human activity.
- Store Rock Picker only with grille and hopper box lowered.
- Do not permit children to play around the stored unit.

STORAGE

After the season's use, completely inspect all major systems of the machine. Repair or replace any worn or damaged components to prevent unnecessary down time at the beginning of next season.
Since the unit can be used in extremely adverse conditions during the season, the machine should be carefully prepared for storage to ensure that all dirt, mud, debris and moisture has been removed.

Follow this procedure when preparing to store:

1. Wash the entire machine thoroughly using a water hose or pressure washer to remove all dirt, mud, debris or residue.
2. Inspect all moving or rotating parts to see if anything has become entangled in them. Remove the entangled material.
3. Lubricate all grease fittings to remove any moisture in the bearings.
4. Run the machine slowly for 1 minute to distribute lubricant to all surfaces.
5. Apply a light coat of oil to the roller chains while the unit is running to prevent rusting.
6. Inspect all hydraulic hoses, fittings, lines, couplers and valves. Tighten any loose fittings. Replace any hose that is badly cut, nicked or abraded or is separating from the crimped end of the fitting.
7. Touch up all paint nicks and scratches to prevent rusting.
8. Oil the exposed rams on the hydraulic cylinders to prevent rusting.
9. Select an area that is dry, level and free of debris.
10. Follow the procedure given in Section 4.6 when unhooking.

⚠ STORAGE SAFETY - DECALS

- Keep safety decals and signs clean and legible at all times.
- Replace safety decals and signs that are missing or have become illegible.
- Replaced parts that displayed a safety sign should also display the current sign.
- Safety decals or signs are available from your Dealer Parts Department. Safety decals will be available upon request.

REPLACEMENT DECALS AND REFLECTORS

PART NO.	DESCRIPTION	QTY.
142364	Decal, Danger - Thrown Rock	2
142363	Decal, Warning - High Pressure	1
142360	Decal, Warning - Jammed Paddle	2
142357	Decal, Warning - Missing Shield	1
142359	Decal, Warning - Rotating Parts - Chain	1
142356	Decal, Caution - 1-10 Point of Safety	1
142365	Decal, Important - Grille Preparation	1
142407	Decal, Important - Chain Maintenance	1
142010	Decal, Degelman - 2-3/4" x 12"	1
142009	Decal, Degelman - 3-3/4" x 16-1/4"	3
142008	Decal, Degelman - 6" x 25-3/4"	1
142418	Decal, WJD - Signature 6000	1
142468	Decal, WJD - Signature 7200	1
142156	Decal, Slow Moving Vehicle	1
142556	Reflector Tape - Red, 2" x 9"	2
142279	Reflector Tape - Amber, 1-5/8" x 3-1/4"	1
119295	Decal, Danger - Driveline - Outer	2
119296	Decal, Danger - Driveline - Outer (French)	1
119297	Decal, Danger - Driveline - Inner	2
142372	Decal, Danger - Rotating Driveline	1
142358	Decal, Warning - Rotating Part - U-Joint	1

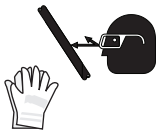
TROUBLESHOOTING

In the following section, we have listed some of the problems, causes and solutions that you may encounter. If you encounter a problem that is difficult to solve, even after having read through this troubleshooting section, please call your local dealer or distributor. Before you call, have this manual and the serial number from your unit ready.

PROBLEM	CAUSE	SOLUTION
Grille creeps down during operation.	Tractor hydraulic leak.	To verify, raise grille, disconnect at tractor and observe if grille creeps down. If not, repair tractor hydraulics.
	Damaged hose or loose fittings.	Search for leaks with a piece of paper (not by hand). Repair as necessary.
	Hydraulic cylinder leak.	Replace seals or damaged components.
Grille raises too slowly.	Hydraulic pressure from tractor too low.	Check pressure, should be 1500-2500 psi.
Loaded box will not lift for dumping.	Restriction in hose.	Disconnect & blow out lines with compressed air.
	External hydraulic leak.	Repair as needed.
Oil accumulation on cylinder shaft.	Hydraulic cylinder leak.	Replace seals or damaged components.
	Oil bypassing seals.	Seal manufacturer advises that small amounts of oil getting past seals is desirable. If problem becomes excessive, replace seals.
Excessive picking of dirt.	Grille set to low.	Maintain grille just skimming ground.
Excessive rock pile-up at bottom of grille.	Reel speed too slow in relation to forward travel.	Change tractor gear range and/or hydraulic flow control valve setting.
	Worn reel springs or inadequate spring tension.	Replace springs.
	Excessive torque limiter slippage (PTO models).	Check and adjust unit.
Paddle teeth contact grille teeth.	Reel misaligned.	Realign reel.
	Bent teeth.	Straighten teeth.

⚠ MAINTENANCE SAFETY

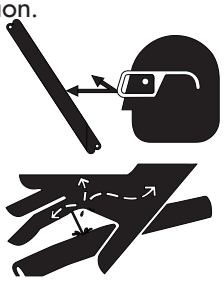
- Review the Operator's Manual and all safety items before working with, maintaining or operating the Rock Picker.
- Lower grille and hopper box, stop the tractor engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Keep hands, feet, clothing and hair away from all moving and/or rotating parts.
- Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making adjustments.
- Place safety stands or large blocks under the frame before removing tires or working beneath the machine.
- Be careful when working around or maintaining a high-pressure hydraulic system. Wear proper eye and hand protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as a backstop when searching for a pin hole leak in a hose or a fitting.



- Always relieve pressure before disconnecting or working on hydraulic system.
- Use a long pole or bar to dislodge material from paddles or grille. Pressure in hydraulic system and paddle spring tension can cause paddles to kick back if they are jammed.
- When a guard is opened or removed for servicing, be sure to install or close it before starting.

⚠ HYDRAULIC SAFETY

1. Always place all tractor hydraulic controls in neutral before dismounting.
2. Make sure that all components in the hydraulic system are kept in good condition and are clean.
3. Replace any worn, cut, abraded, flattened or crimped hoses and metal lines.
4. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
5. Wear proper hand and eye protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.



6. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
7. Before applying pressure to the system, make sure all components are tight and that lines, hoses and couplings are not damaged.

• Think SAFETY! Work SAFELY

⚠ TIRE SAFETY

1. Failure to follow proper procedures when mounting a tire on a wheel or rim can produce a blow out which may result in serious injury or death.
2. Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
3. Have a qualified tire dealer or repair serviceman perform required tire maintenance.

HARDWARE/HOSE SPECIFICATIONS

Unless otherwise stated:

- Hardware - Hex, Plated GR5 UNC or P8.8 (metric)
- Hydraulic Hoses - 3/8 & 1/2, ends come with 3/4 JIC female swivel.

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

IMPERIAL TORQUE SPECIFICATIONS

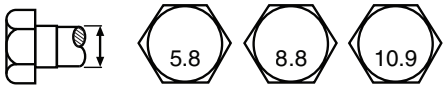
Unified Inch Torque Values (based on "Dry" values)

Size	Grade 5	Grade 8
	lb·ft (N·m)	lb·ft (N·m)
1/4"	9 (12)	12.5(17)
5/16"	18 (25)	26 (35)
3/8"	33 (44)	46 (63)
7/16"	52 (70)	75 (100)
1/2"	80 (110)	115 (150)
9/16"	115 (155)	160 (225)
5/8"	160 (215)	225 (300)
3/4"	280 (375)	400 (550)
7/8"	450 (625)	650 (875)
1"	675 (925)	975 (1300)

METRIC TORQUE SPECIFICATIONS

Metric Torque Values (based on "Dry" values)

Size	Class 8.8	Class 10.9
	lb·ft (N·m)	lb·ft (N·m)
M6	8.5 (11)	12 (17)
M8	20 (28)	30 (40)
M10	40 (55)	60 (80)
M12	70 (95)	105 (140)
M14	110 (150)	165 (225)
M16	175 (240)	255 (360)
M18	250 (330)	350 (475)
M20	350 (475)	500 (675)
M22	475 (650)	675 (925)
M24	600 (825)	850 (1150)



FLUIDS AND LUBRICANTS

1. Grease: Use an SAE multi-purpose grease with extreme pressure (EP) performance. Also acceptable is an SAE multi-purpose lithium base grease.

2. Gearbox Reservoir Oil: Use an SAE 85W90 gear oil for all operating conditions. Reservoir capacity: 1 quart (1litre).

3. Storing Lubricants: Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

GREASING

1. Use only a hand-held grease gun for all greasing.
2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt.
3. Replace and repair broken fittings immediately.
4. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.
5. Inject grease until you see grease being expelled from the bearing or bushing areas.

HYDRAULIC FITTING TORQUE

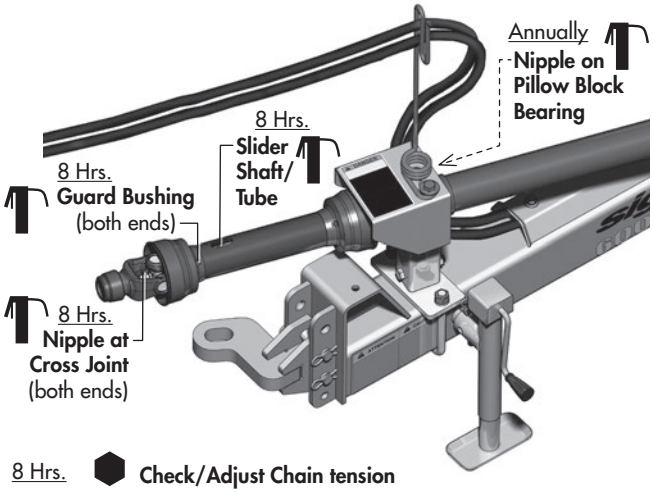
TIGHTENING FLARE TYPE TUBE FITTINGS *

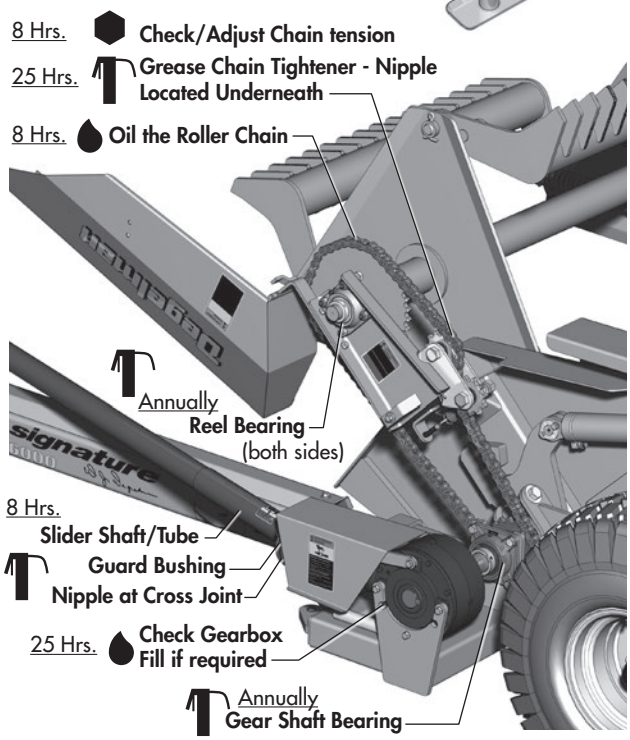
1. Check flare and flare seat for defects that might cause leakage.
2. Align tube with fitting before tightening.
3. Lubricate connection and hand tighten swivel nut until snug.
4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.

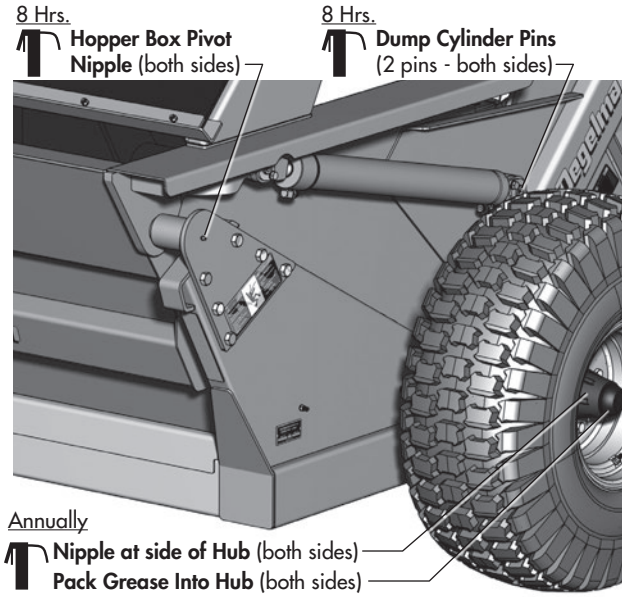
Hydraulic Fitting Torque*

Size	lb.ft (N.m)
1/2	34 (46)
3/4	75 (100)
7/8	90 (122)

*The torque values shown are based on lubricated connections as in reassembly.






8 Hrs.
Hopper Box Pivot Nipple (both sides)
8 Hrs.
Dump Cylinder Pins (2 pins - both sides)
Annually
Nipple at side of Hub (both sides)
Pack Grease Into Hub (both sides)

SERVICE INTERVALS

CAUTION: *Machine may be shown with guard(s) opened for illustrative purposes only. Close all guards before using.*

LUBE AFTER EVERY 8 HRS.

8 Hrs.

- oil the roller chain - 1 location
- check/adjust chain tension - 1 location
- grease hopper box pivots - 2 locations
  grease dump cylinder pins - 4 pins
- check for hydraulic fluid leaks - general
- check for damaged hosess - general
- check tire pressure (36 psi) - general

PTO Models:

Front driveline: slider shaft/tube - 1 location
cross joint fitting - 2 locations
guard bushing - 2 locations

Rear driveline: slider shaft/tube - 1 location
cross joint fitting - 1 locations
guard bushing - 1 locations

25 Hrs.

PTO Models:

- grease chain tightener - 1 location
  (nipple located underside of tightener)
- check gear box oil level - 1 location
  - Remove threaded plug to check oil level.
  - Oil should be level with threads.
  - Add as required through top vent cap.

Annually

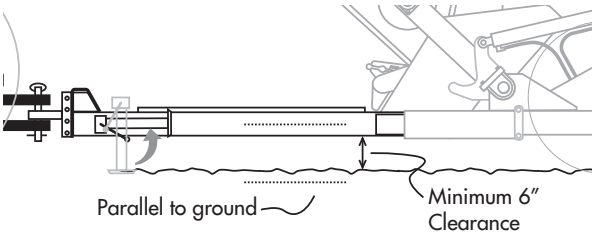
- check hardware/bolt tightness - general
- grease reel bearing units - 2 locations
  grease wheel hub nipple - 2 locations
- check/repack wheel bearings - 2 locations
  (use a good grade of bearing grease)

PTO Models:

- driveline pillow block bearing - 1 location
- gear shaft bearing unit - 1 location

HITCH CLEVIS ADJUSTMENTS

The hitch pole should always be set to be parallel to the ground when attached to the tractor. To set this angle, follow this procedure:



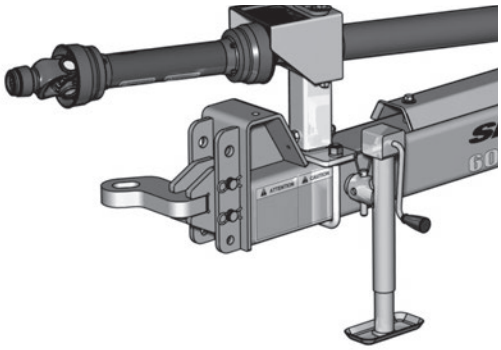
1. Clear the area of bystanders, especially small children.
2. Install the drawbar pin to attach the clevis to the tractor.
3. Use the hitch jack to lower the hitch and transfer the weight off the drawbar.
4. Step back and check to see if the pole is parallel to the ground.
5. If it isn't, use the jack to raise the pole and centre the clevis to the drawbar.
6. Remove the clevis mounting pin.
7. Move the clevis up or down as required.
8. Install the clevis mounting pin and retainer.
9. Lower the hitch and check the pole angle again.

⚠ **IMPORTANT:** *The machine operates at maximum efficiency when the hitch pole is parallel to the ground.*

PTO Drive Models

NOTE: *Be sure to face the hitch tongue in the direction shown.*

Hitch must be turned inboard as shown to help cut down on U-joint "knuckling" when turning machine during operation.



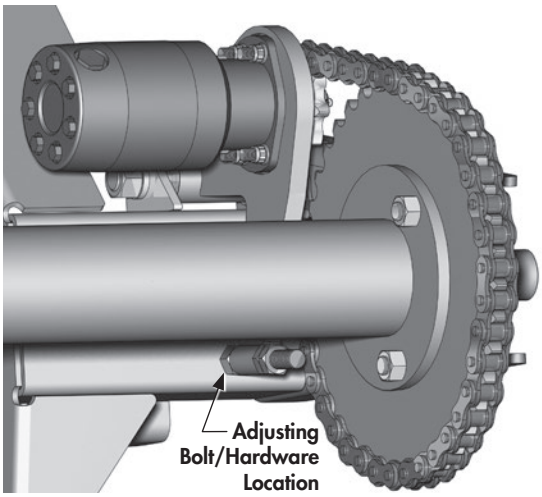
REEL DRIVE CHAIN TENSION

A roller chain transmits power to the reel. Check tension daily and tighten to remove excessive slack. To adjust the tension, follow this procedure:

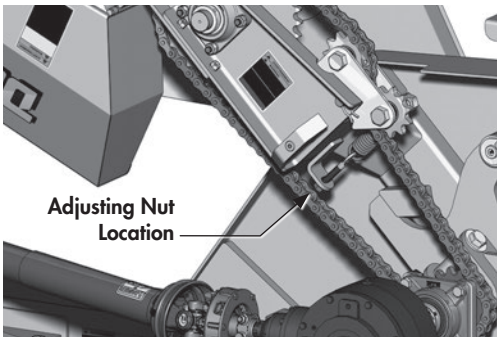
1. Clear the area of bystanders, especially small children.
2. Lower grille to ground, stop engine, place all controls in neutral, relieve hydraulic pressure, set park brake and remove ignition key before dismounting.
3. Open chain drive shield.

⚠ **CAUTION:** *Machine may be shown with guard(s) opened for illustrative purposes only. Close guards before using.*

4. **Hydraulic Drive Model**: Back off hardware and turn adjusting bolt to remove excessive slack.



PTO Drive Model: Tighten adjusting nut on eye bolt to remove excessive slack.



5. Retighten hardware.
6. Lubricate chain.
7. Close chain shield.

PADDLE SPRING TENSION

A spring on the paddles allows the paddles to flip back out of the way when blocked by a rock and yet return to their normal position for the next reel cycle. A small adjustment is available with the eye bolt on the end of the spring.

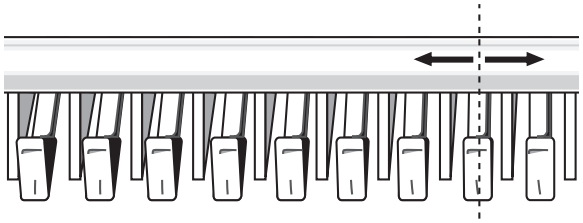
To adjust the tension, follow this procedure:

1. Clear the area of bystanders, especially small children.
2. Lower grille to ground, stop engine, place all controls in neutral, relieve hydraulic pressure, set park brake and remove ignition key before dismounting.

⚠ **IMPORTANT:** *Relieve hydraulic pressure by moving hydraulic control levers back and forth through neutral several times.*

3. Tighten the nut on the spring eye bolt.

PADDLE TEETH ALIGNMENT



Occasionally it may become necessary to shift the reel assembly over to realign the paddle teeth to ensure that they pass through the grille teeth evenly.

To realign, proceed as follows:

1. Remove chain shield to expose bearing.
2. Loosen set screw on bearing lock collar. Then using a drift punch and hammer, loosen lock collar (opposite the direction of rotation). Repeat on the opposite side.
3. Slide reel over until each of the paddles turn evenly through grille teeth.
4. Secure this setting by tightening lock collar of both bearings (in direction of rotation). Tighten set screw.
5. Reposition the chain shield.

⚠ **WARNING:** *DO NOT operate machine without shield secured in position.*

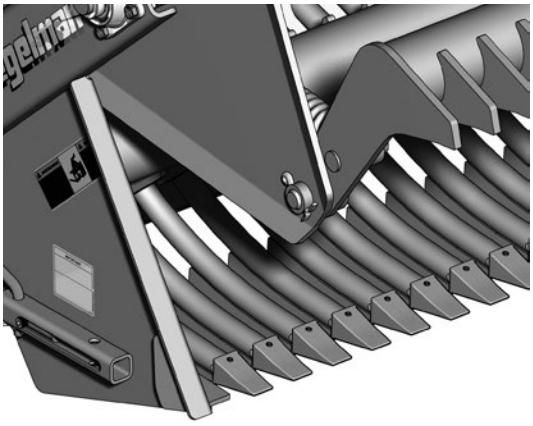
PADDLE AND GRILLE TEETH REPAIR OR REPLACEMENT

⚠ **WARNING:** *Securely block up grille before attempting any work on grille teeth.*

⚠ **IMPORTANT:** *When performing arc welding operations on this machine, the current between the rod and the ground must not pass through any bearing unit to eliminate the possibility of "pitting" due to current arcing across ball bearings and bearing race.*

Restoring or Replacing Teeth: Build up and resurface teeth as required using hard surface welding rods. A hardness of RC45-50 is desirable.

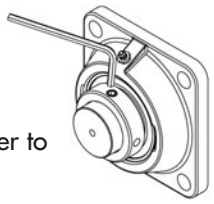
The paddle teeth and grille teeth can be replaced with new ones as required. It will be necessary to cut off and grind away the welding that held the old tooth. Then evenly space, tack up and weld each tooth into position.



Grille Tooth Tip Replacement: Replace broken cast tips immediately to prevent wearing down of mating stub. Replace tips by driving out roll pin, wedging new tip into position and reinstalling roll pin.

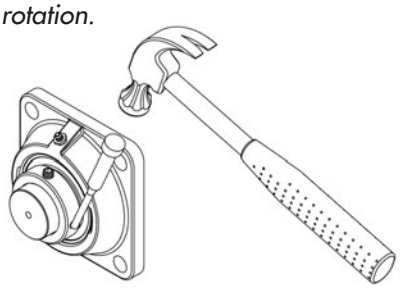
BEARING REPLACEMENT

When bearing noise becomes evident, replacement of the bearing is necessary. Whether the complete bearing unit or just the bearing insert was purchased, proceed as follows:

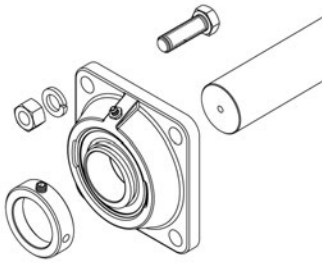


1. Loosen set screw with allen wrench.
2. Use drift punch and hammer to loosen lock collar.

NOTE: *Lock collar loosens opposite the direction of rotation.*



3. Remove lock collar and bolts.
4. Pull bearing unit from shaft and replace.



<u>To re-install:</u>

5. Relocate lock collar and tighten.
6. Tighten set screw.
7. Lubricate grease fitting.

HYDRAULIC CYLINDER REPAIR

When cylinder repair is required, clean off unit, disconnect hoses and plug ports before removing cylinder.

DISASSEMBLY

1. Loosen lock ring and turn off end cap.
2. Carefully remove piston, rod and cap combination.
3. Disassemble piston from rod by removing lock nut.

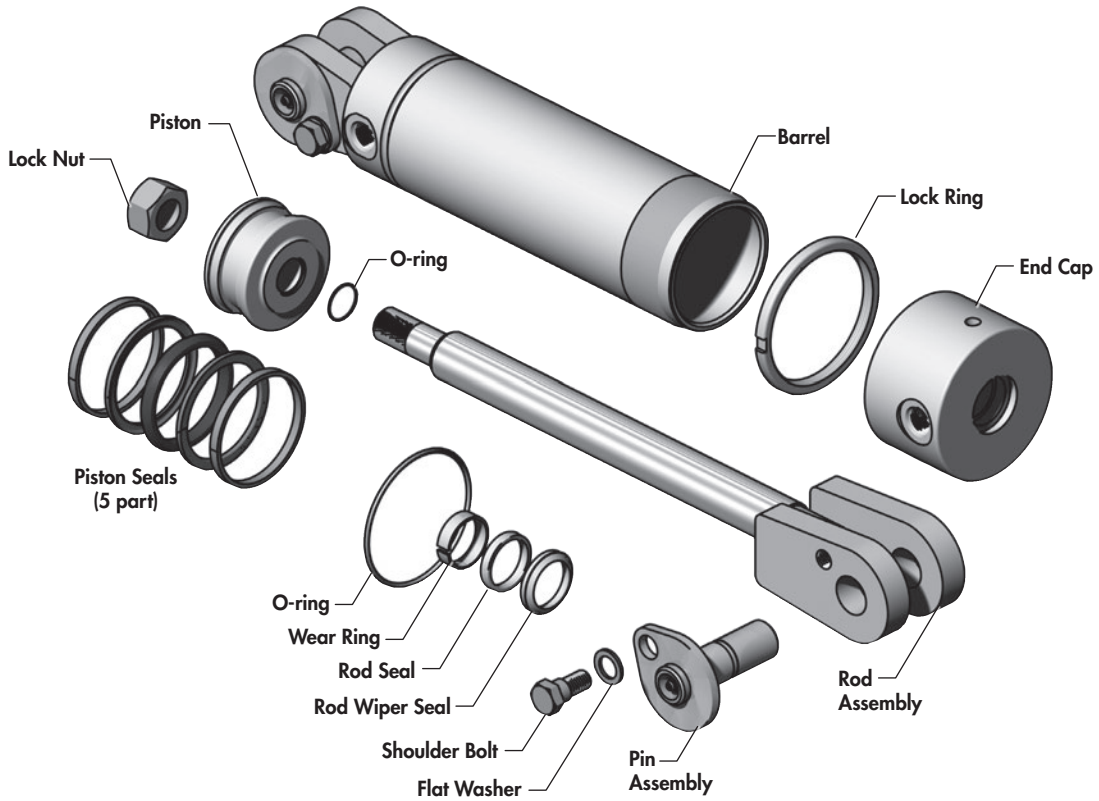
NOTE: *DO NOT clamp rod by chrome surface.*

4. Slide off end cap.
5. Remove seals and inspect all parts for damage.
6. Install new seals and replace damaged parts with new components.

ASSEMBLY

1. Reinstall rod through end cap.
2. Secure piston to rod with lock nut. Torque to 225 ft-lb (305 N·m).
3. With cylinder body held gently in a vise, insert piston and rod combination using a slight rocking motion.
4. Thread lock ring fully onto barrel.
5. Turn end cap fully against lock ring then back off end cap to align ports.
6. Tighten lock ring against end cap using a punch and hammer.

COMMON DEGELMAN CYLINDER COMPONENTS



WHEEL HUB REPAIR

IMPORTANT: *Be sure to block up unit securely before removing tires.*

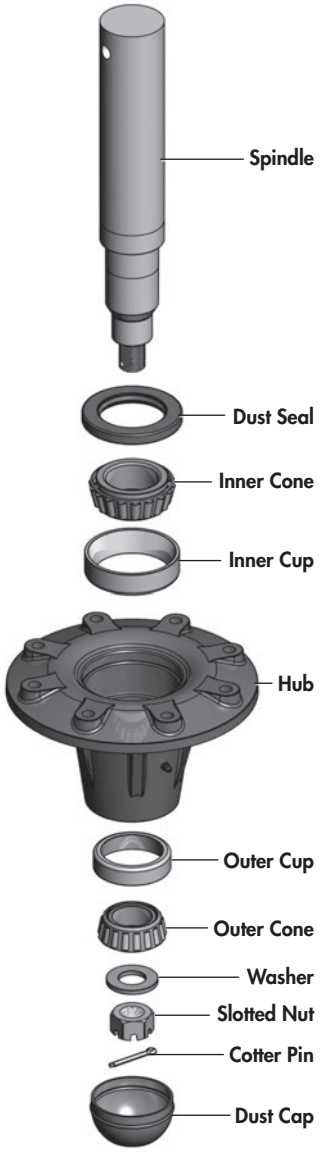
DISASSEMBLY

1. Carefully pry off dust cap.
2. Remove cotter pin from nut.
3. Remove nut and washer.
4. Pull hub off spindle.
5. Dislodge the inner cone bearing and dust seal.
6. Inspect cups that are press fitted into hub for pits or corrosion and remove if necessary.
7. Inspect and replace defective parts with new ones.

ASSEMBLY

1. If cups need replacing, be careful to install them gently and evenly into hub until they are fully seated.
2. Apply a thick wall of grease inside hub. Pack grease in cones.
3. Install dust seal as illustrated, and inner cone.
4. Position hub onto spindle and fill surrounding cavity with grease.
5. Assemble outer cone, washer and nut.
6. Tighten nut while rotating hub until there is a slight drag.
7. Turn nut back approximately 1/4 turn to align cotter pin hole with notches on nut. Note: Hub should rotate freely. If not, repeat step 6.
8. Install cotter pin and bend legs sideways over nut.
9. Fill dust cap half full of grease and gently tap into position.
10. Pump grease into hub through grease fitting until lubricant can be seen from dust seal.

COMMON SPINDLE AND HUB COMPONENTS



PTO TORQUE LIMITER/SLIP CLUTCH

Torque Limiter Run In & Repair

Tools Required: 1/2" or M13 box wrench or socket.

Run-In of the Friction Clutch

(Necessary for all new clutches and clutches that have not been operated for (1) season or approximately 60 days.)

1. Make sure the tractor is off and the PTO is disengaged.
2. Disconnect the driveline from the tractor.
3. Locate the long bolts on the O.D. of the clutch pak. Loosen the bolts until all are finger tight, then tighten each one half a turn.
4. Attach the implement to the tractor and the driveline to the tractor PTO. Stand clear.
5. Turn the tractor on. Engage the PTO clutch and run for a few seconds, or until the clutch visibly smokes, then disengage the PTO.
6. Make sure the tractor is off and the PTO is disengaged.
7. Disconnect the driveline from the tractor.
8. Tighten the long bolts on the O.D. of the clutch pak until the compression plate is in full contact with the housing.
9. Grease the fitting on the yoke using Shell Super Duty or an equivalent lithium grease.

Repair And Rebuilding

Disassembly

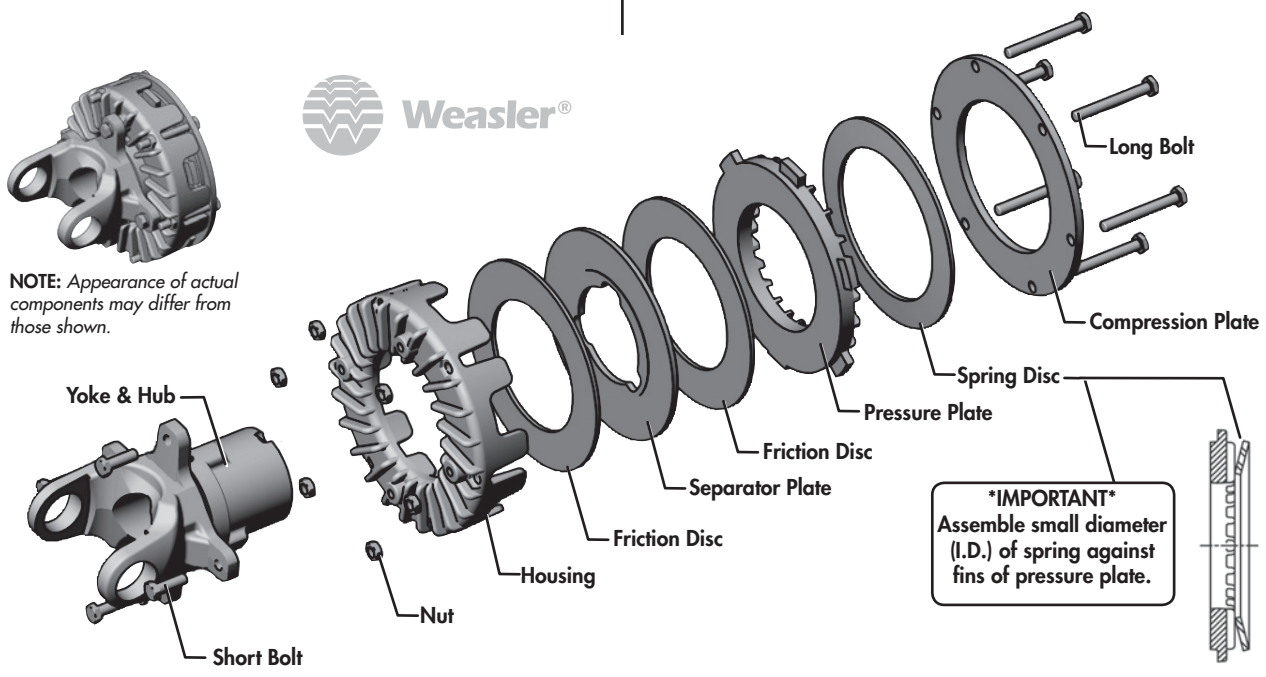
1. Place the clutch and universal joint assembly on a bench, with the end of the clutch accessible.
2. Remove the long bolts on the outside of the housing that hold the friction pack together.
3. Remove the plate(s) and all internal components, leaving the yoke/hub intact.
4. Discard the friction discs if worn below 1/16".

Inspection

6. Inspect the steel and iron parts for wear, warpage or cracking and replace if necessary.
7. Inspect the yoke/hub for looseness. If there is more than .03 end play, replace.
8. Clean any, rust or dust from the plate surfaces with a wire brush or steel wool.

Assembly

9. Place one new friction disc inside the housing, then the separator plate, then the other friction disc.
10. Add the pressure plate so that the flat surface rests on the friction disc (the tangs on the plate must fall into the reliefs in the housing).
11. Add the disc spring so that the spring inside diameter contacts the fins of the pressure plate.
12. Assemble the compression plate and all long bolts, making sure that all nuts are in their pockets. Tighten all long bolts to 30 ft-lbs.



Parts Section

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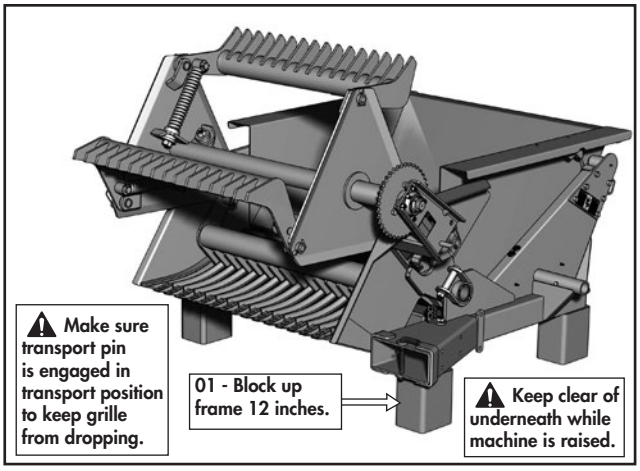
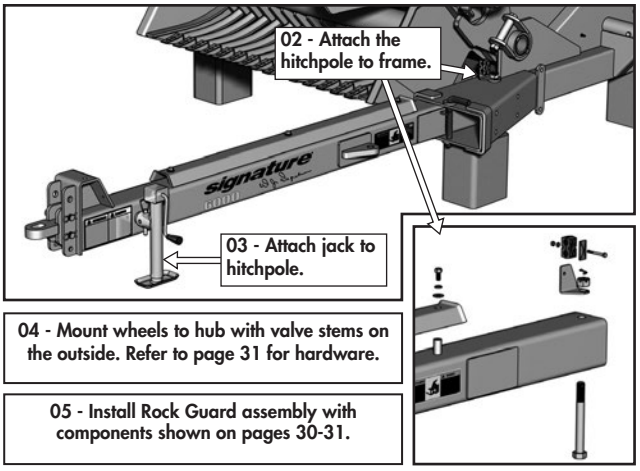
⚠ IMPORTANT:

READ MANUAL

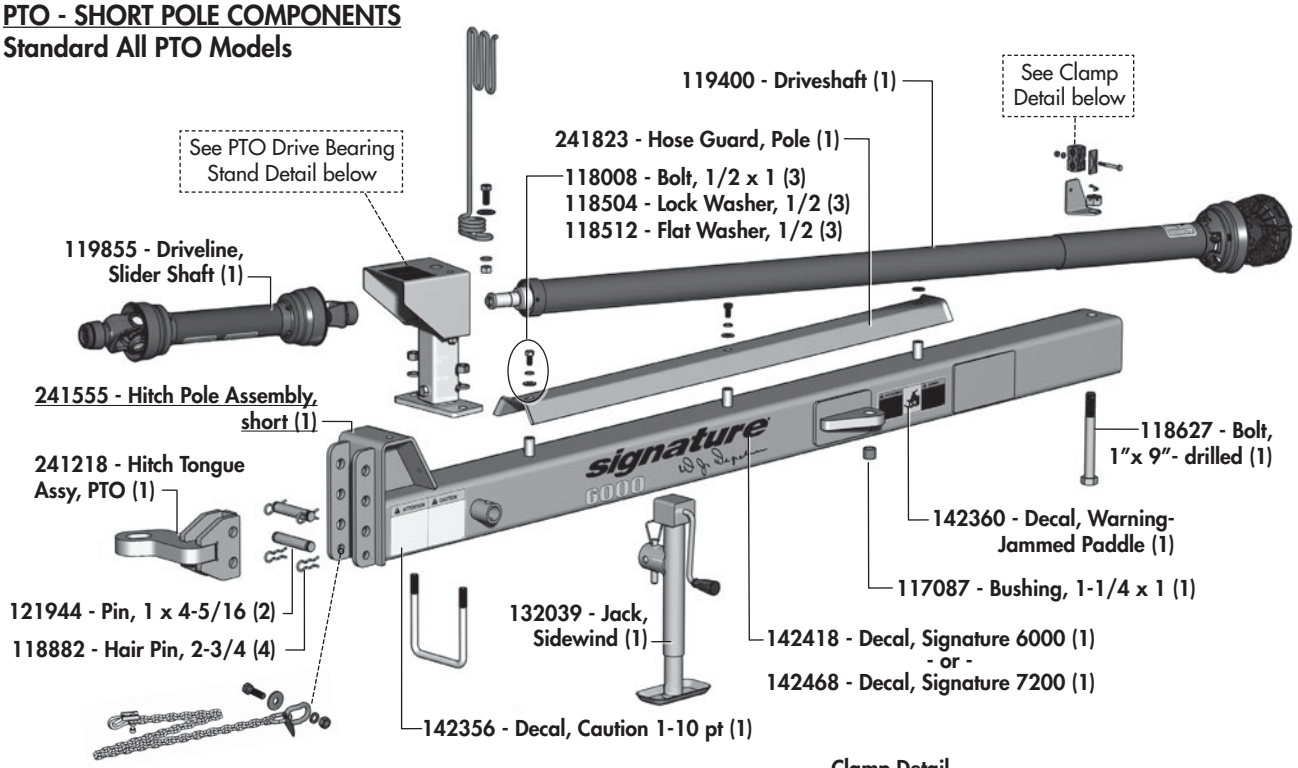
Initial Assembly Set-Up


⚠ Make sure transport pin is engaged in transport position to keep grille from dropping.
01 - Block up frame 12 inches.
⚠ Keep clear of underneath while machine is raised.


02 - Attach the hitchpole to frame.
03 - Attach jack to hitchpole.
04 - Mount wheels to hub with valve stems on the outside. Refer to page 31 for hardware.
05 - Install Rock Guard assembly with components shown on pages 30-31.

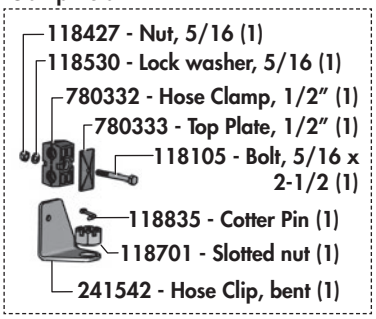
Hitch Pole Components - PTO

PTO - SHORT POLE COMPONENTS
Standard All PTO Models

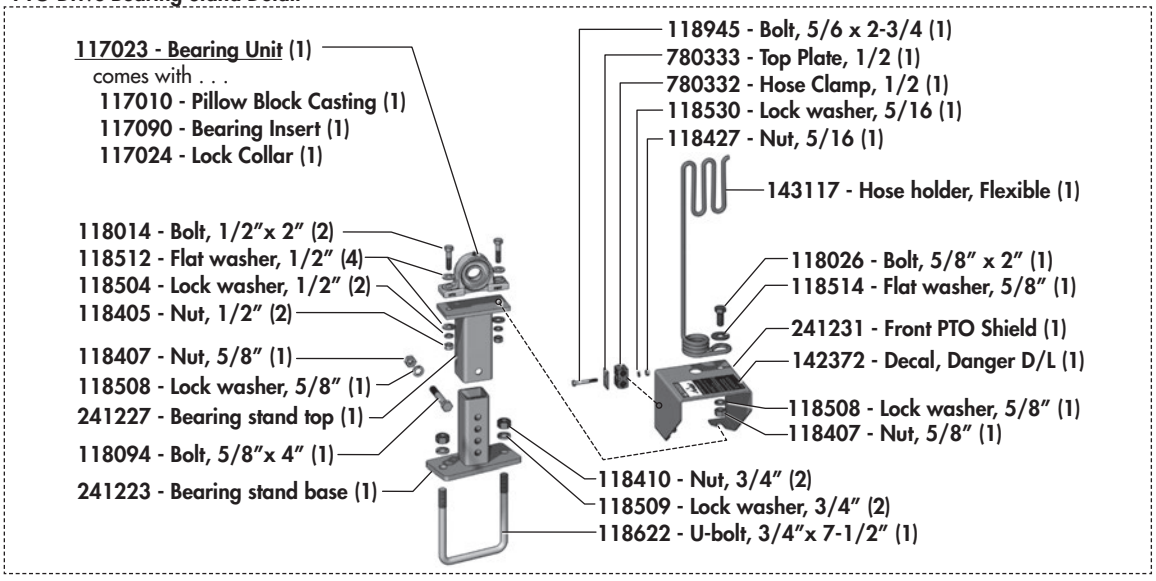

119400 - Driveshaft (1)
See Clamp Detail below
241823 - Hose Guard, Pole (1)
See PTO Drive Bearing Stand Detail below
118008 - Bolt, 1/2 x 1 (3)
118504 - Lock Washer, 1/2 (3)
118512 - Flat Washer, 1/2 (3)
119855 - Driveline, Slider Shaft (1)
241555 - Hitch Pole Assembly, short (1)
241218 - Hitch Tongue Assy, PTO (1)
118627 - Bolt, 1"x 9"- drilled (1)
142360 - Decal, Warning- Jammed Paddle (1)
117087 - Bushing, 1-1/4 x 1 (1)
121944 - Pin, 1 x 4-5/16 (2)
118882 - Hair Pin, 2-3/4 (4)
132039 - Jack, Sidewind (1)
142418 - Decal, Signature 6000 (1)
- or -
142468 - Decal, Signature 7200 (1)
142356 - Decal, Caution 1-10 pt (1)
signature
6000

116244 - Safety Chain (1)
comes with...
- 118048 - Bolt, 3/4" x 2-1/2" (1)
- 118635 - Flat washer, 3/4" (1)
- 118509 - Lock washer, 3/4" (1)
- 118770 - Nut, 3/4" (1)

Clamp Detail

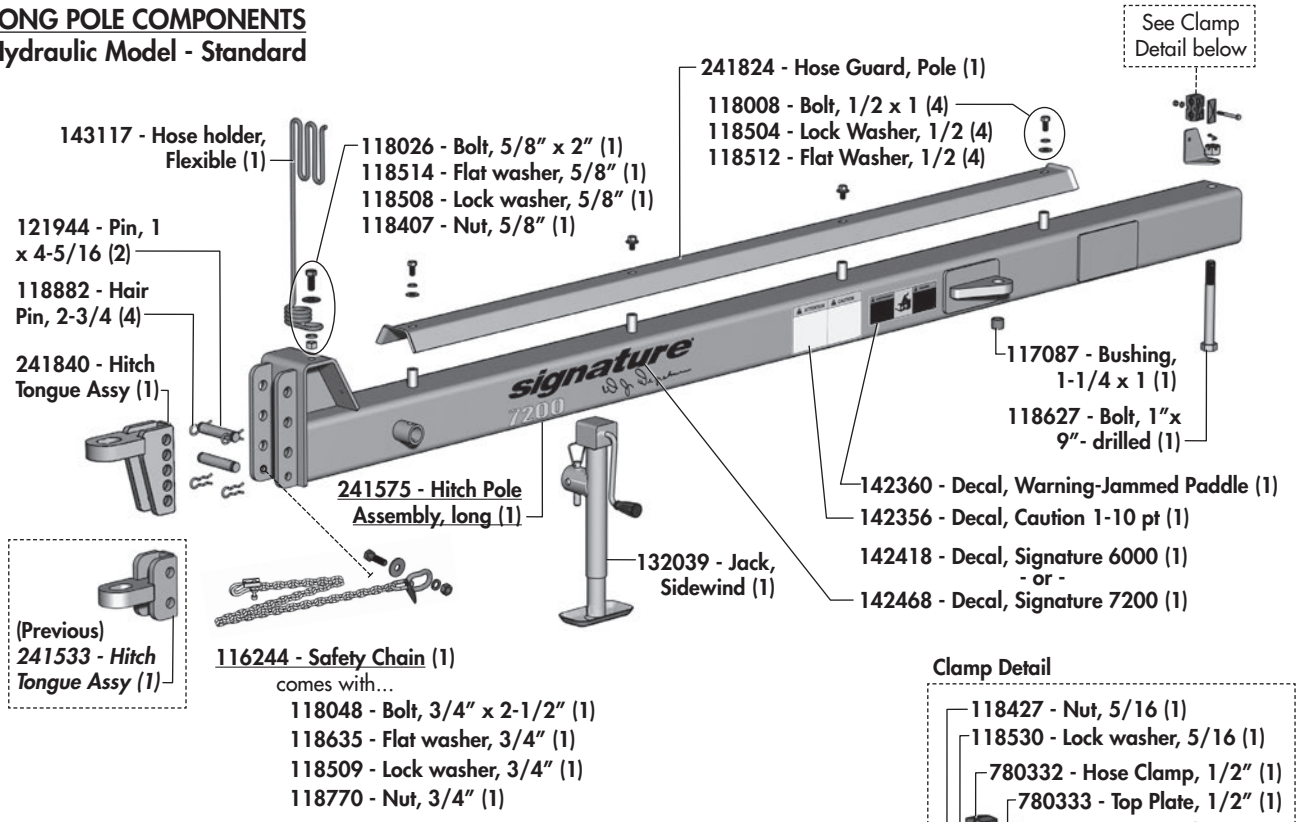


PTO Drive Bearing Stand Detail

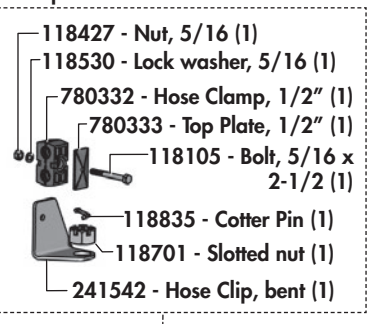

117023 - Bearing Unit (1)
comes with . . .
117010 - Pillow Block Casting (1)
117090 - Bearing Insert (1)
117024 - Lock Collar (1)
118945 - Bolt, 5/6 x 2-3/4 (1)
780333 - Top Plate, 1/2 (1)
780332 - Hose Clamp, 1/2 (1)
118530 - Lock washer, 5/16 (1)
118427 - Nut, 5/16 (1)
143117 - Hose holder, Flexible (1)
118014 - Bolt, 1/2"x 2" (2)
118512 - Flat washer, 1/2" (4)
118504 - Lock washer, 1/2" (2)
118405 - Nut, 1/2" (2)
118026 - Bolt, 5/8" x 2" (1)
118514 - Flat washer, 5/8" (1)
241231 - Front PTO Shield (1)
118407 - Nut, 5/8" (1)
118508 - Lock washer, 5/8" (1)
241227 - Bearing stand top (1)
142372 - Decal, Danger D/L (1)
118508 - Lock washer, 5/8" (1)
118407 - Nut, 5/8" (1)
118094 - Bolt, 5/8"x 4" (1)
241223 - Bearing stand base (1)
118410 - Nut, 3/4" (2)
118509 - Lock washer, 3/4" (2)
118622 - U-bolt, 3/4"x 7-1/2" (1)

Hitch Pole Components - Hydraulic

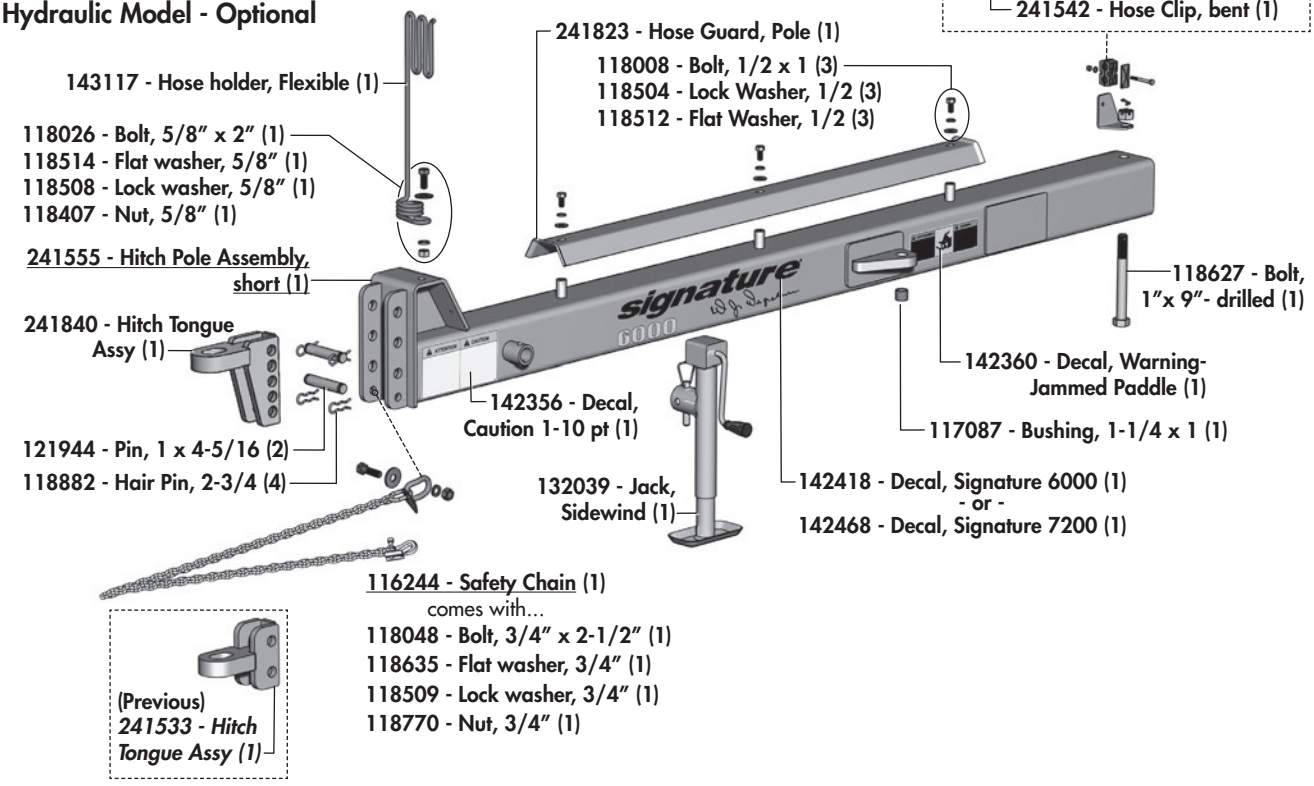
LONG POLE COMPONENTS
Hydraulic Model - Standard


See Clamp Detail below
241824 - Hose Guard, Pole (1)
118008 - Bolt, 1/2 x 1 (4)
118504 - Lock Washer, 1/2 (4)
118512 - Flat Washer, 1/2 (4)
143117 - Hose holder, Flexible (1)
118026 - Bolt, 5/8" x 2" (1)
118514 - Flat washer, 5/8" (1)
118508 - Lock washer, 5/8" (1)
118407 - Nut, 5/8" (1)
121944 - Pin, 1 x 4-5/16 (2)
118882 - Hair Pin, 2-3/4 (4)
241840 - Hitch Tongue Assy (1)
117087 - Bushing, 1-1/4 x 1 (1)
118627 - Bolt, 1"x 9"- drilled (1)
241575 - Hitch Pole Assembly, long (1)
142360 - Decal, Warning-Jammed Paddle (1)
142356 - Decal, Caution 1-10 pt (1)
142418 - Decal, Signature 6000 (1)
- or -
142468 - Decal, Signature 7200 (1)
132039 - Jack, Sidewind (1)
(Previous) 241533 - Hitch Tongue Assy (1)
116244 - Safety Chain (1)
comes with...
118048 - Bolt, 3/4" x 2-1/2" (1)
118635 - Flat washer, 3/4" (1)
118509 - Lock washer, 3/4" (1)
118770 - Nut, 3/4" (1)

Clamp Detail

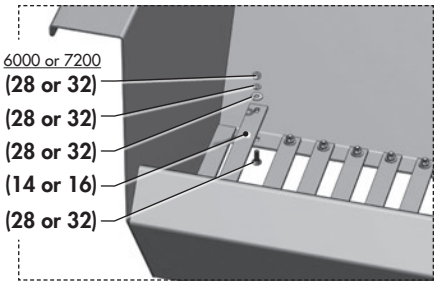


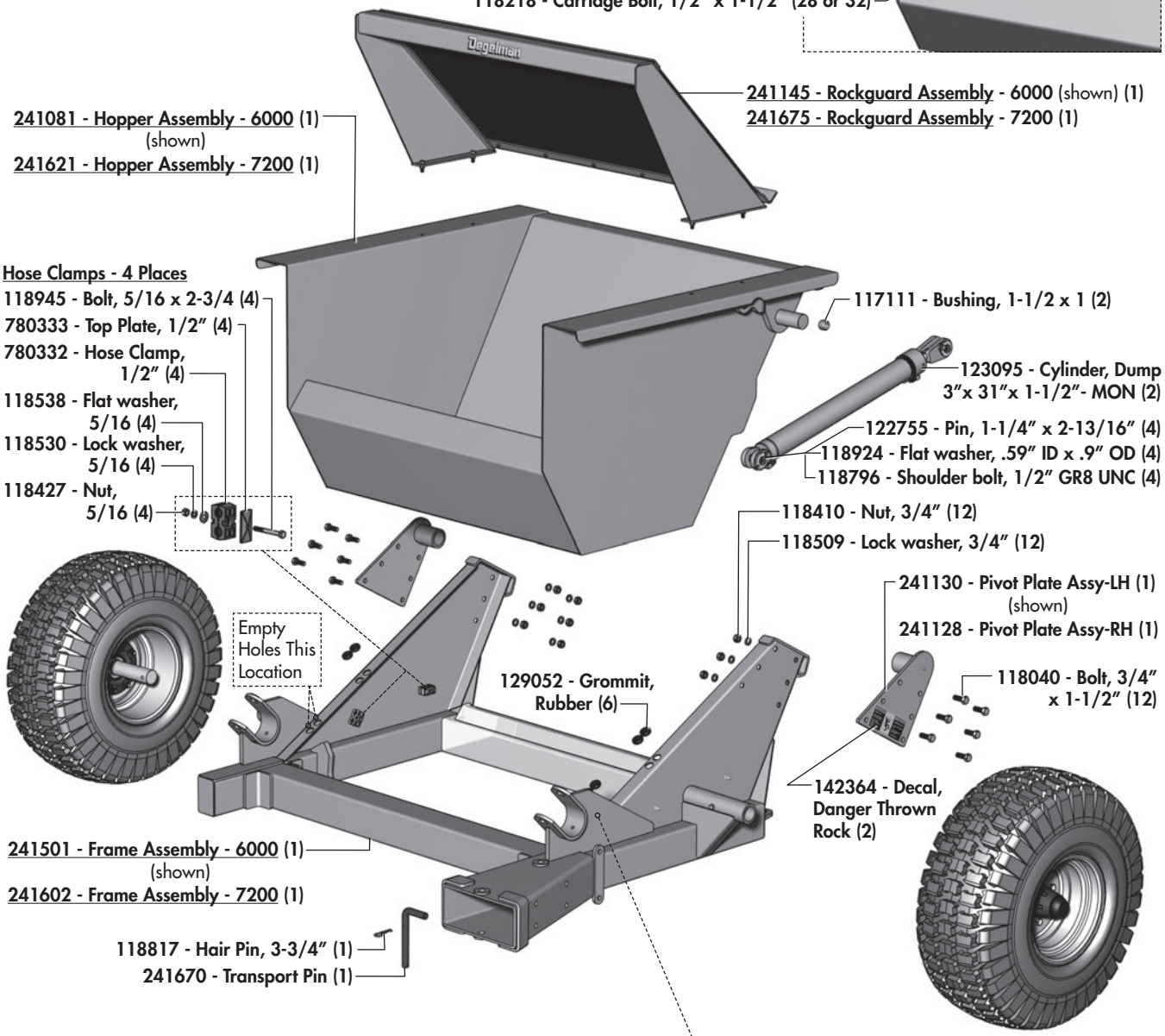
SHORT POLE COMPONENTS
Hydraulic Model - Optional

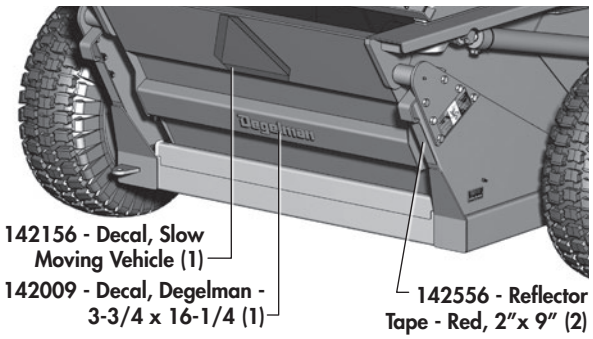

241823 - Hose Guard, Pole (1)
118008 - Bolt, 1/2 x 1 (3)
118504 - Lock Washer, 1/2 (3)
118512 - Flat Washer, 1/2 (3)
143117 - Hose holder, Flexible (1)
118026 - Bolt, 5/8" x 2" (1)
118514 - Flat washer, 5/8" (1)
118508 - Lock washer, 5/8" (1)
118407 - Nut, 5/8" (1)
241555 - Hitch Pole Assembly, short (1)
241840 - Hitch Tongue Assy (1)
121944 - Pin, 1 x 4-5/16 (2)
118882 - Hair Pin, 2-3/4 (4)
118627 - Bolt, 1"x 9"- drilled (1)
142360 - Decal, Warning-Jammed Paddle (1)
117087 - Bushing, 1-1/4 x 1 (1)
142356 - Decal, Caution 1-10 pt (1)
142418 - Decal, Signature 6000 (1)
- or -
142468 - Decal, Signature 7200 (1)
132039 - Jack, Sidewind (1)
116244 - Safety Chain (1)
comes with...
118048 - Bolt, 3/4" x 2-1/2" (1)
118635 - Flat washer, 3/4" (1)
118509 - Lock washer, 3/4" (1)
118770 - Nut, 3/4" (1)
(Previous) 241533 - Hitch Tongue Assy (1)

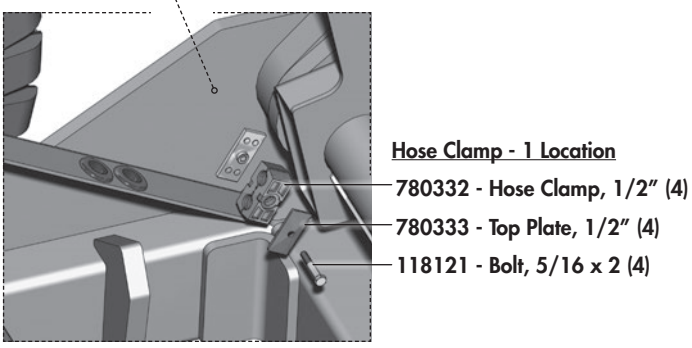
Frame & Hopper Components

FRAME & HOPPER COMPONENTS
(6000 Model Shown)




241145 - Rockguard Assembly - 6000 (shown) (1)
241675 - Rockguard Assembly - 7200 (1)
241081 - Hopper Assembly - 6000 (1) (shown)
241621 - Hopper Assembly - 7200 (1)
Hose Clamps - 4 Places
118945 - Bolt, 5/16 x 2-3/4 (4)
780333 - Top Plate, 1/2" (4)
780332 - Hose Clamp, 1/2" (4)
118538 - Flat washer, 5/16 (4)
118530 - Lock washer, 5/16 (4)
118427 - Nut, 5/16 (4)
117111 - Bushing, 1-1/2 x 1 (2)
123095 - Cylinder, Dump 3"x 31"x 1-1/2"- MON (2)
122755 - Pin, 1-1/4" x 2-13/16" (4)
118924 - Flat washer, .59" ID x .9" OD (4)
118796 - Shoulder bolt, 1/2" GR8 UNC (4)
118410 - Nut, 3/4" (12)
118509 - Lock washer, 3/4" (12)
241130 - Pivot Plate Assy-LH (1) (shown)
241128 - Pivot Plate Assy-RH (1)
118040 - Bolt, 3/4" x 1-1/2" (12)
Empty Holes This Location
129052 - Grommit, Rubber (6)
142364 - Decal, Danger Thrown Rock (2)
241501 - Frame Assembly - 6000 (1) (shown)
241602 - Frame Assembly - 7200 (1)
118817 - Hair Pin, 3-3/4" (1)
241670 - Transport Pin (1)

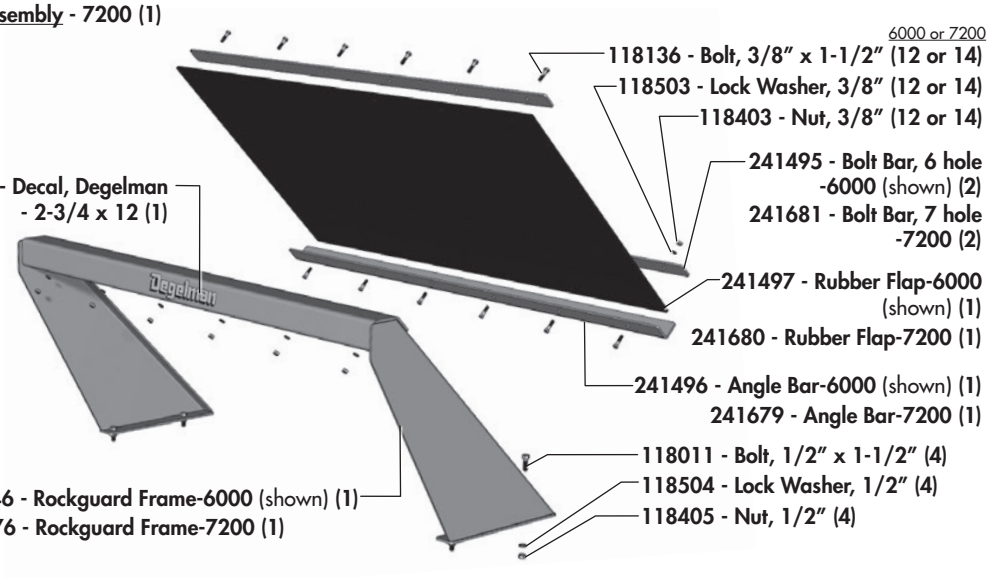




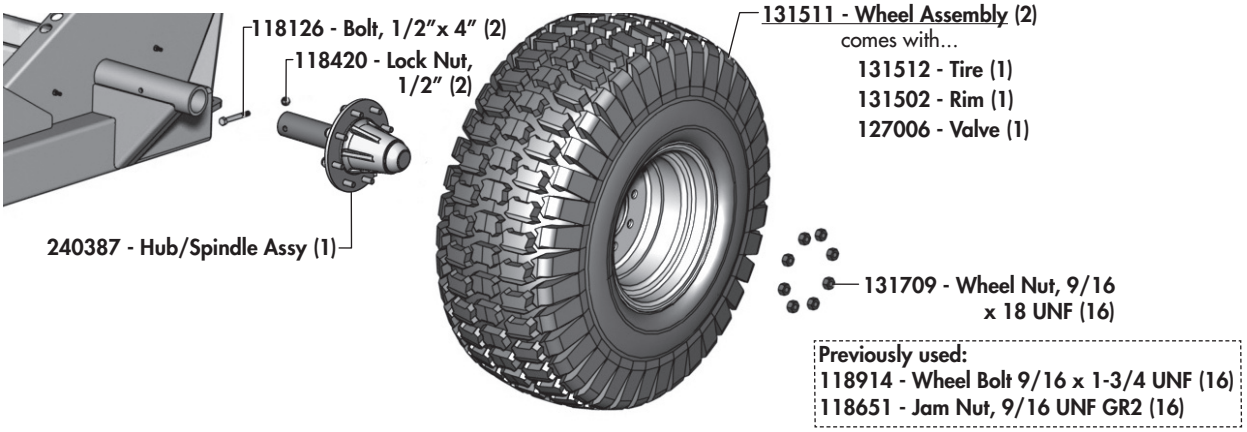
Rockguard & Wheel Components

ROCKGUARD COMPONENTS (6000 Model shown)

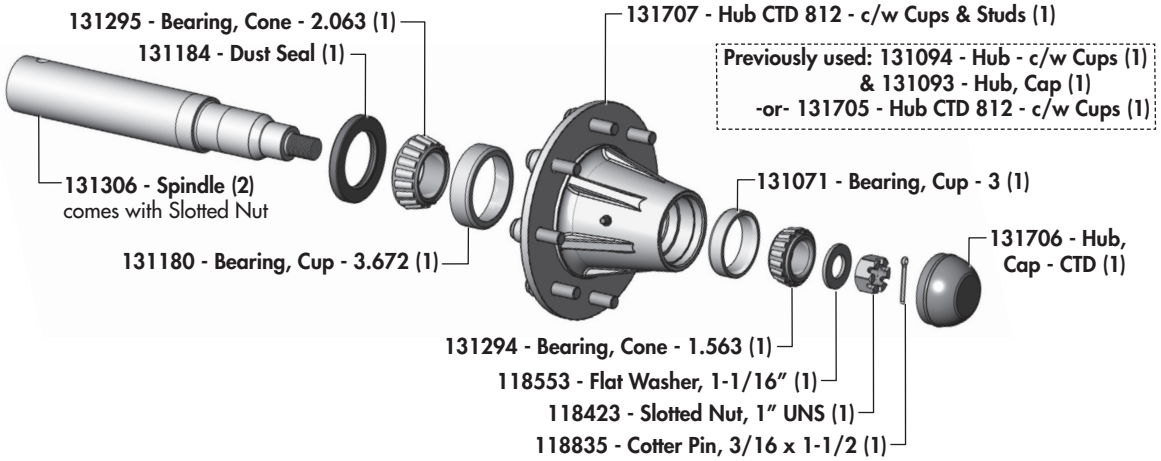
241145 - Rockguard Assembly - 6000 (shown) (1)
241675 - Rockguard Assembly - 7200 (1)



WHEEL COMPONENTS (Left Side Shown)


118126 - Bolt, 1/2"x 4" (2)
118420 - Lock Nut, 1/2" (2)
131511 - Wheel Assembly (2)
comes with...
131512 - Tire (1)
131502 - Rim (1)
127006 - Valve (1)
240387 - Hub/Spindle Assy (1)
131709 - Wheel Nut, 9/16 x 18 UNF (16)
Previously used:
118914 - Wheel Bolt 9/16 x 1-3/4 UNF (16)
118651 - Jam Nut, 9/16 UNF GR2 (16)

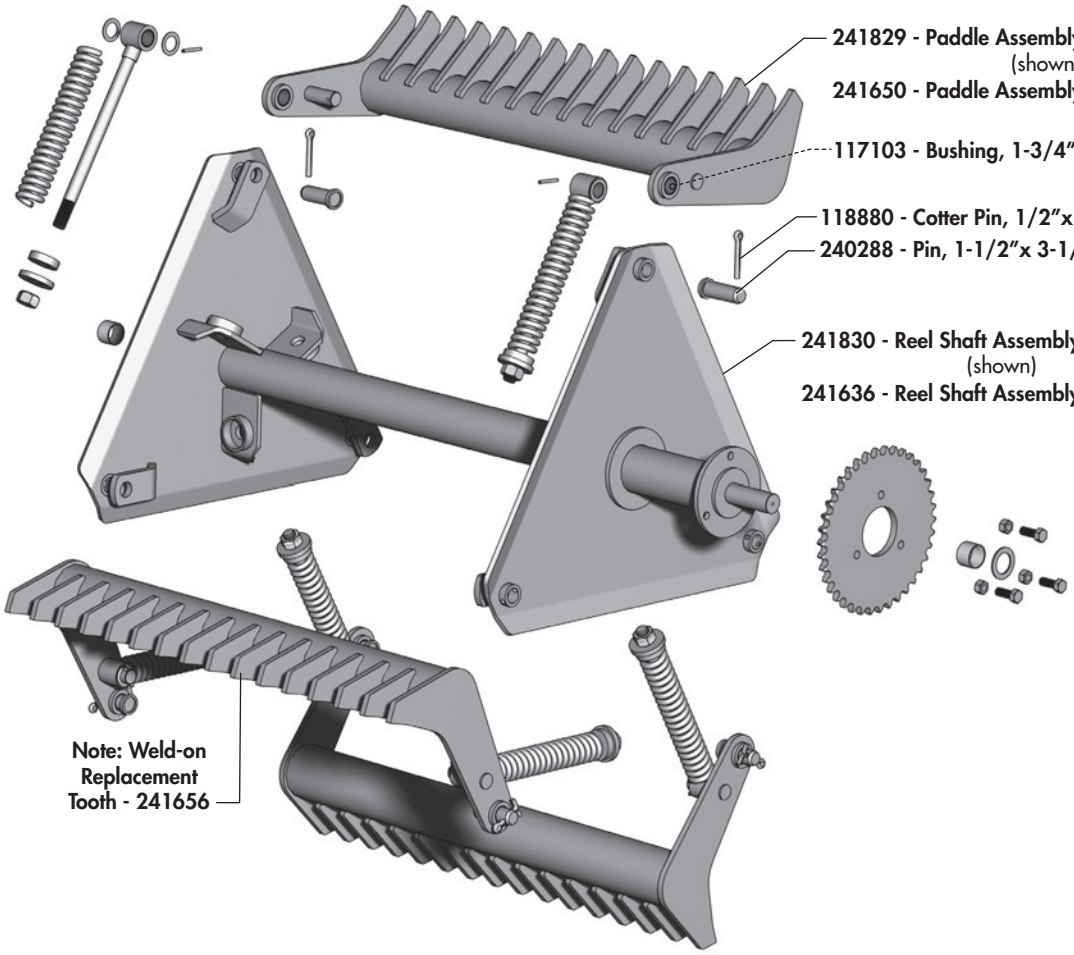
HUB/SPINDLE COMPONENTS

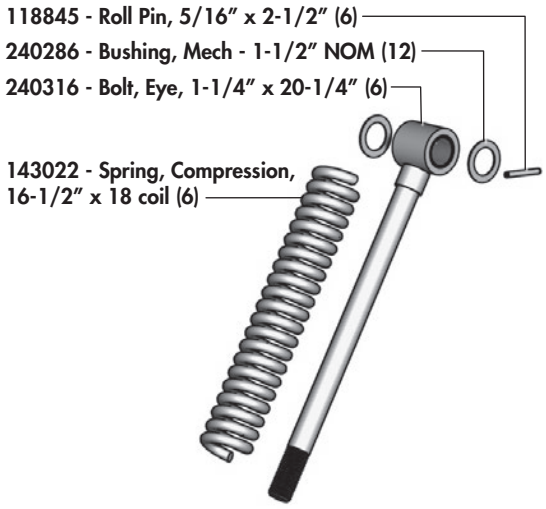

131295 - Bearing, Cone - 2.063 (1)
131184 - Dust Seal (1)
131707 - Hub CTD 812 - c/w Cups & Studs (1)
Previously used: 131094 - Hub - c/w Cups (1) & 131093 - Hub, Cap (1)
-or- 131705 - Hub CTD 812 - c/w Cups (1)
131306 - Spindle (2)
comes with Slotted Nut
131071 - Bearing, Cup - 3 (1)
131706 - Hub, Cap - CTD (1)
131180 - Bearing, Cup - 3.672 (1)
131294 - Bearing, Cone - 1.563 (1)
118553 - Flat Washer, 1-1/16" (1)
118423 - Slotted Nut, 1" UNS (1)
118835 - Cotter Pin, 3/16 x 1-1/2 (1)

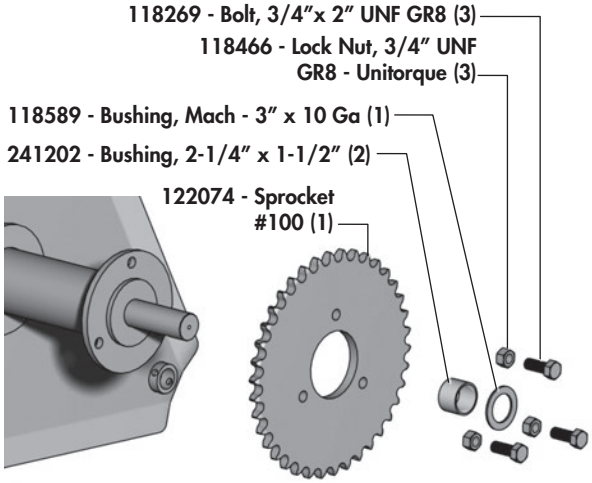
Reel Components

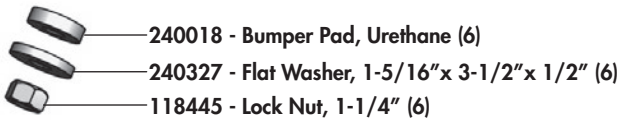
REEL ASSEMBLY COMPONENTS
(6000 Model Shown)

241828 - Reel & Paddle Assembly - 6000 (shown below) **(1)**
241764 - Reel & Paddle Assembly - 7200 (1)


241829 - Paddle Assembly - 6000 (3)
(shown)
241650 - Paddle Assembly - 7200 (3)
117103 - Bushing, 1-3/4" (6)
118880 - Cotter Pin, 1/2"x 3" (6)
240288 - Pin, 1-1/2"x 3-1/16" (6)
241830 - Reel Shaft Assembly - 6000 (1)
(shown)
241636 - Reel Shaft Assembly - 7200 (1)
Note: Weld-on
Replacement
Tooth - 241656

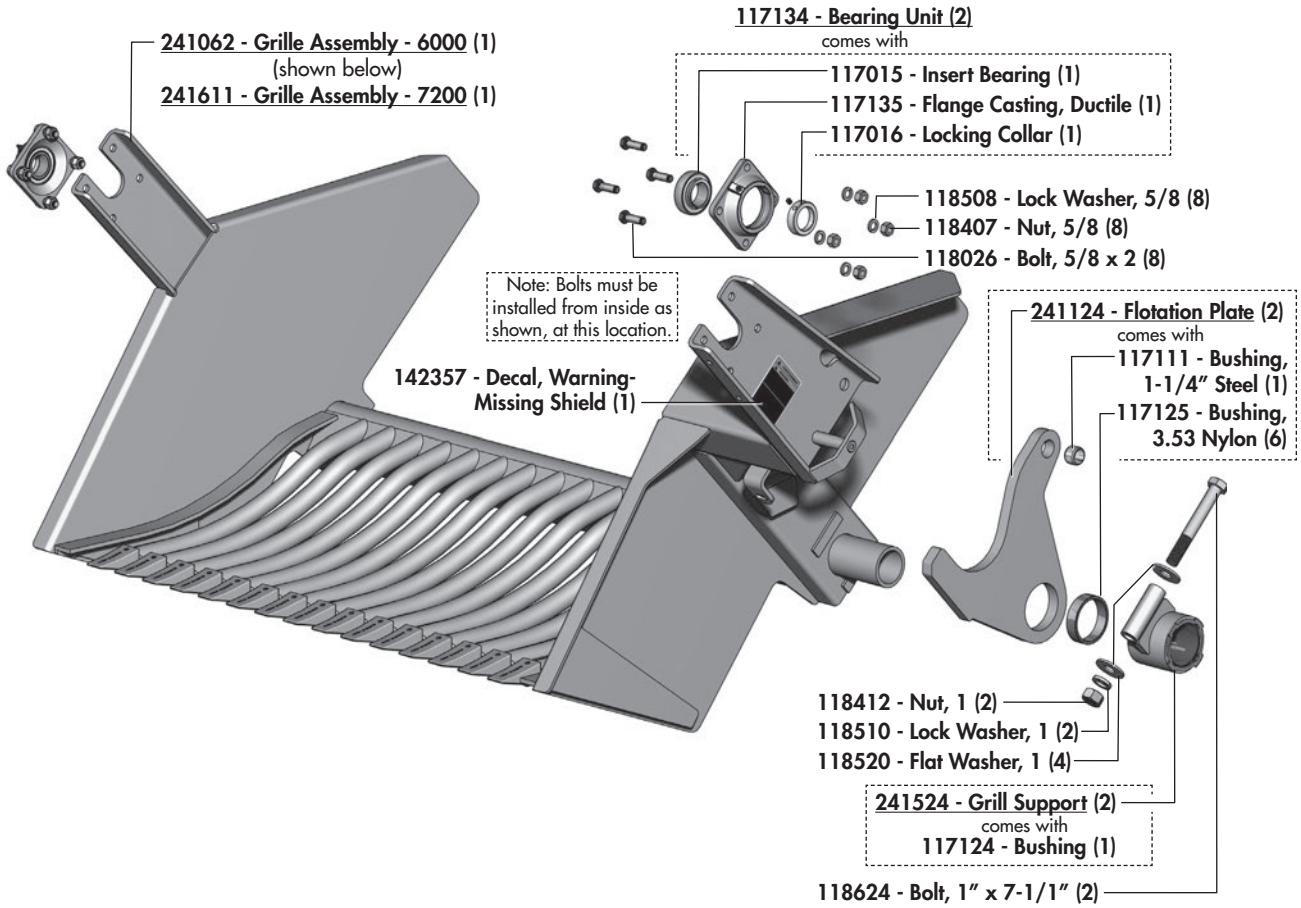

118845 - Roll Pin, 5/16" x 2-1/2" (6)
240286 - Bushing, Mech - 1-1/2" NOM (12)
240316 - Bolt, Eye, 1-1/4" x 20-1/4" (6)
143022 - Spring, Compression,
16-1/2" x 18 coil (6)

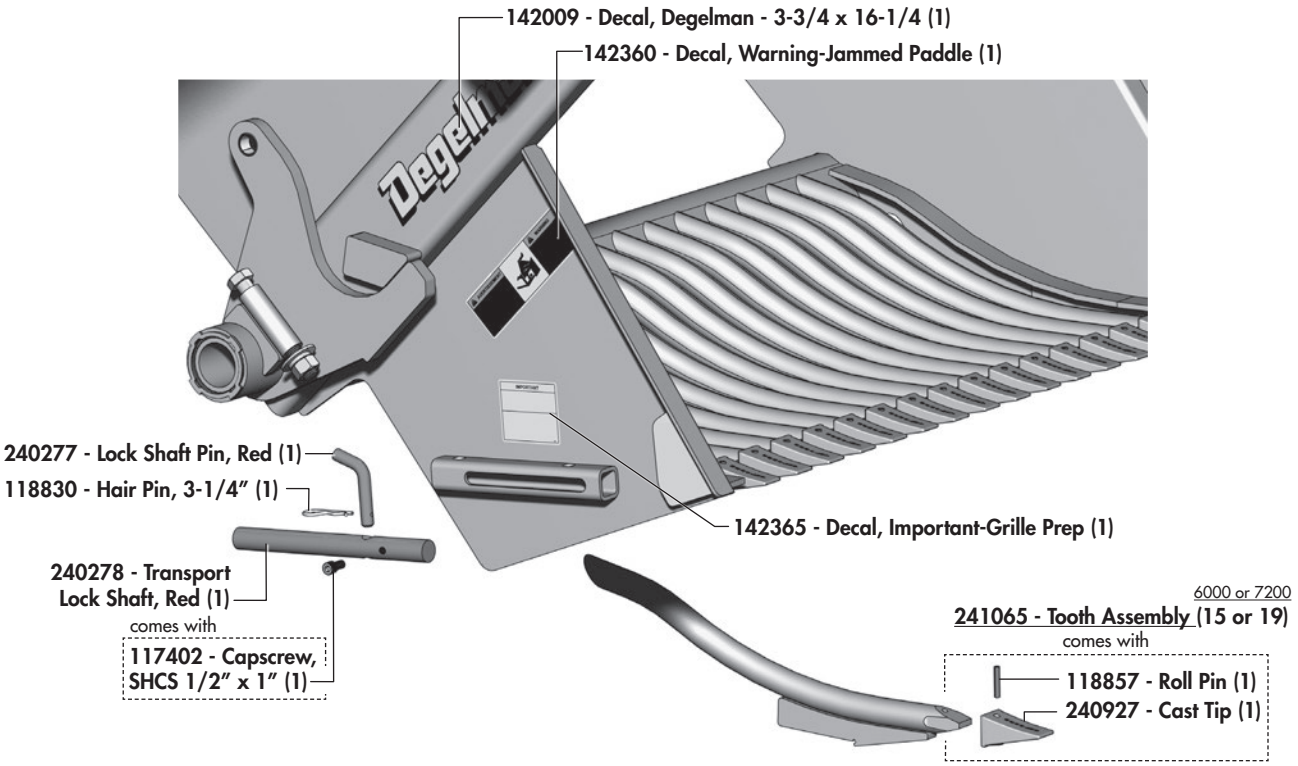

118269 - Bolt, 3/4"x 2" UNF GR8 (3)
118466 - Lock Nut, 3/4" UNF
GR8 - Unitorque (3)
118589 - Bushing, Mach - 3" x 10 Ga (1)
241202 - Bushing, 2-1/4" x 1-1/2" (2)
122074 - Sprocket
#100 (1)



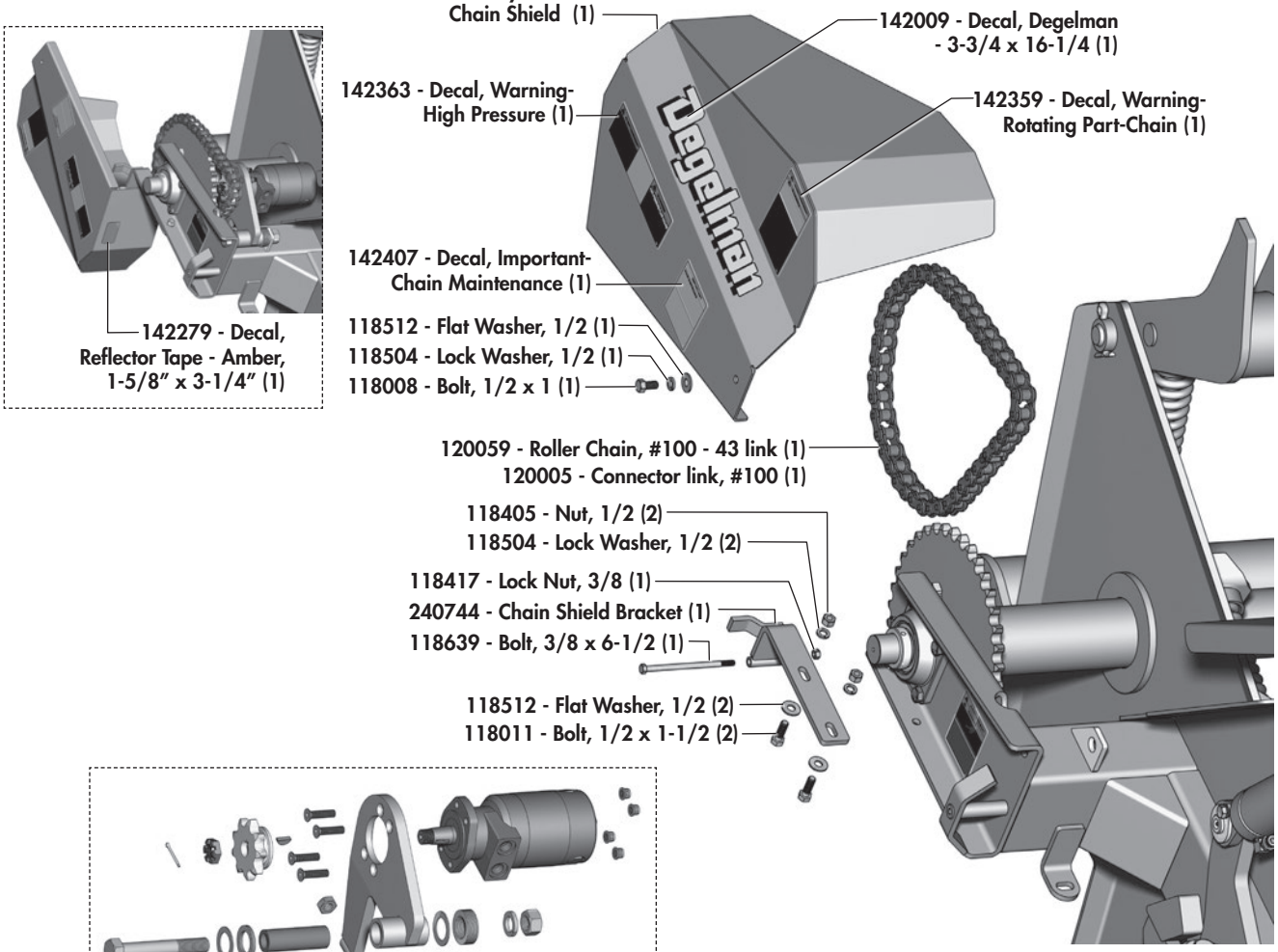
Grille Components

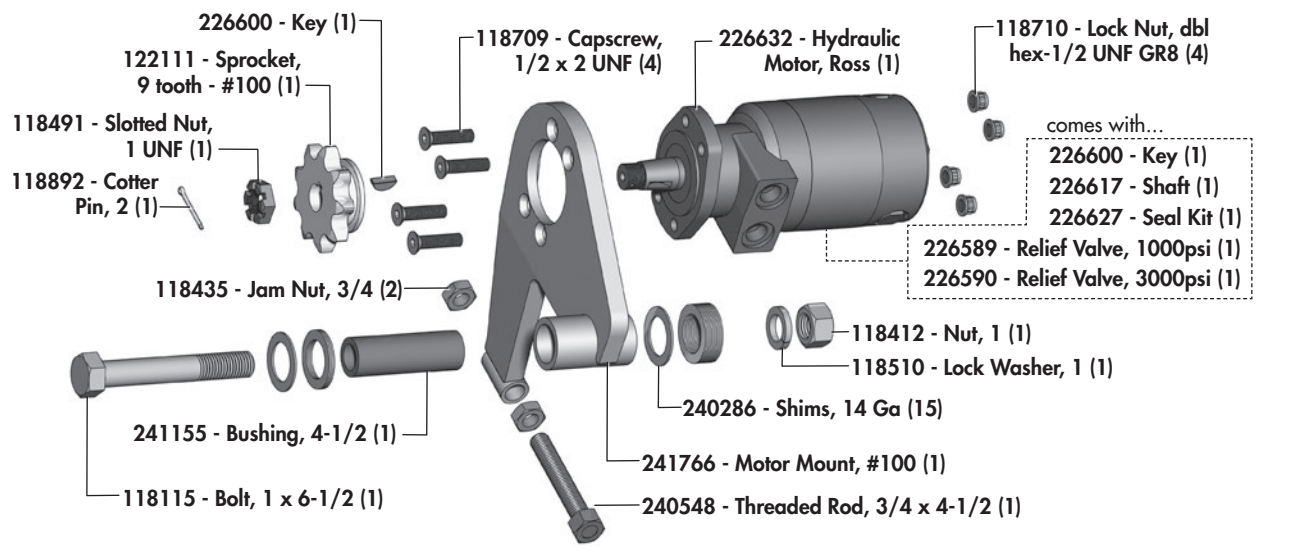
GRILLE ASSEMBLY COMPONENTS
(6000 Model Shown)


241062 - Grille Assembly - 6000 (1)
(shown below)
241611 - Grille Assembly - 7200 (1)
117134 - Bearing Unit (2)
comes with
117015 - Insert Bearing (1)
117135 - Flange Casting, Ductile (1)
117016 - Locking Collar (1)
118508 - Lock Washer, 5/8 (8)
118407 - Nut, 5/8 (8)
118026 - Bolt, 5/8 x 2 (8)
Note: Bolts must be installed from inside as shown, at this location.
241124 - Flotation Plate (2)
comes with
117111 - Bushing, 1-1/4" Steel (1)
117125 - Bushing, 3.53 Nylon (6)
142357 - Decal, Warning-Missing Shield (1)
118412 - Nut, 1 (2)
118510 - Lock Washer, 1 (2)
118520 - Flat Washer, 1 (4)
241524 - Grill Support (2)
comes with
117124 - Bushing (1)
118624 - Bolt, 1" x 7-1/1" (2)

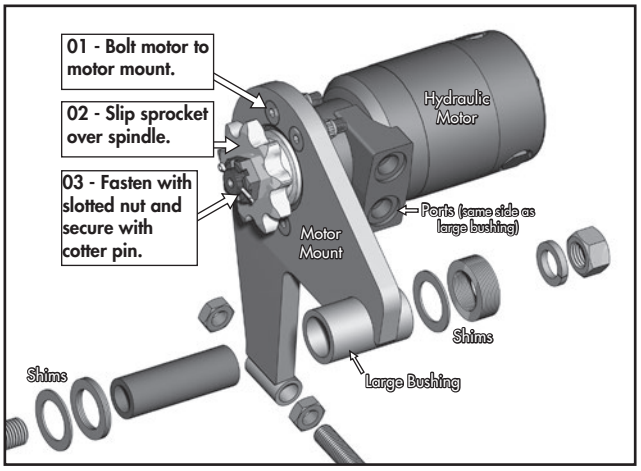

142009 - Decal, Degelman - 3-3/4 x 16-1/4 (1)
142360 - Decal, Warning-Jammed Paddle (1)
240277 - Lock Shaft Pin, Red (1)
118830 - Hair Pin, 3-1/4" (1)
240278 - Transport Lock Shaft, Red (1)
comes with
117402 - Capscrew, SHCS 1/2" x 1" (1)
142365 - Decal, Important-Grille Prep (1)
6000 or 7200
241065 - Tooth Assembly (15 or 19)
comes with
118857 - Roll Pin (1)
240927 - Cast Tip (1)

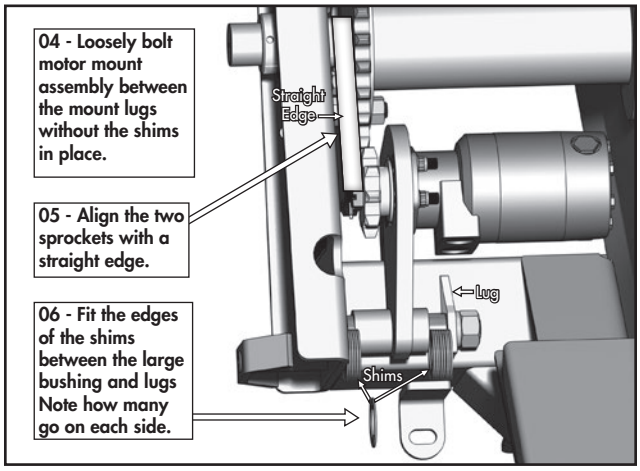
Hydraulic Drive Components

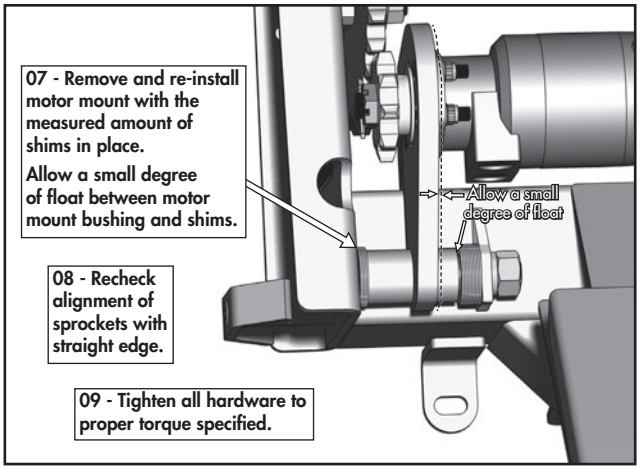

241160 - Hydraulic Motor Chain Shield (1)
142009 - Decal, Degelman - 3-3/4 x 16-1/4 (1)
142363 - Decal, Warning- High Pressure (1)
142359 - Decal, Warning- Rotating Part-Chain (1)
142407 - Decal, Important- Chain Maintenance (1)
118512 - Flat Washer, 1/2 (1)
118504 - Lock Washer, 1/2 (1)
118008 - Bolt, 1/2 x 1 (1)
142279 - Decal, Reflector Tape - Amber, 1-5/8" x 3-1/4" (1)
120059 - Roller Chain, #100 - 43 link (1)
120005 - Connector link, #100 (1)
118405 - Nut, 1/2 (2)
118504 - Lock Washer, 1/2 (2)
118417 - Lock Nut, 3/8 (1)
240744 - Chain Shield Bracket (1)
118639 - Bolt, 3/8 x 6-1/2 (1)
118512 - Flat Washer, 1/2 (2)
118011 - Bolt, 1/2 x 1-1/2 (2)
Note: See Hydraulic Motor Mount Bracket Detail Below

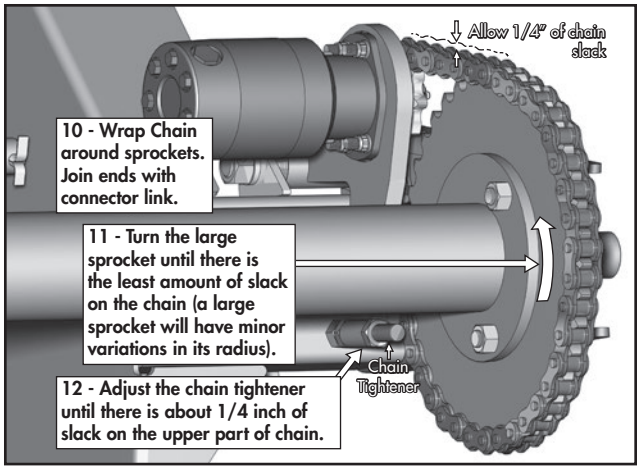

226600 - Key (1)
122111 - Sprocket, 9 tooth - #100 (1)
118491 - Slotted Nut, 1 UNF (1)
118892 - Cotter Pin, 2 (1)
118709 - Capscrew, 1/2 x 2 UNF (4)
226632 - Hydraulic Motor, Ross (1)
118710 - Lock Nut, dbl hex-1/2 UNF GR8 (4)
comes with...
226600 - Key (1)
226617 - Shaft (1)
226627 - Seal Kit (1)
226589 - Relief Valve, 1000psi (1)
226590 - Relief Valve, 3000psi (1)
118435 - Jam Nut, 3/4 (2)
118412 - Nut, 1 (1)
118510 - Lock Washer, 1 (1)
240286 - Shims, 14 Ga (15)
241155 - Bushing, 4-1/2 (1)
241766 - Motor Mount, #100 (1)
118115 - Bolt, 1 x 6-1/2 (1)
240548 - Threaded Rod, 3/4 x 4-1/2 (1)

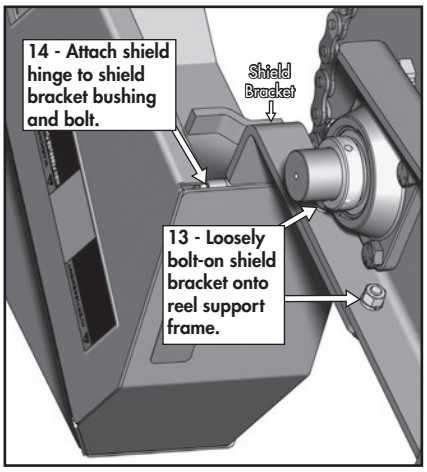
Hydraulic Drive Motor Installation

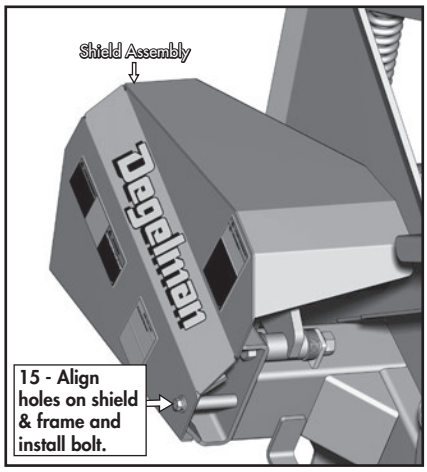

01 - Bolt motor to motor mount.
02 - Slip sprocket over spindle.
03 - Fasten with slotted nut and secure with cotter pin.
Hydraulic Motor
Ports (same side as large bushing)
Motor Mount
Shims
Shims
Large Bushing

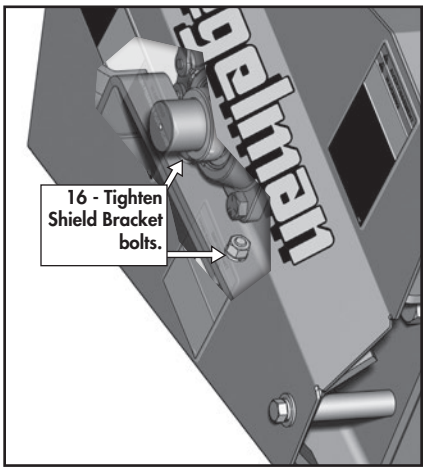

04 - Loosely bolt motor mount assembly between the mount lugs without the shims in place.
05 - Align the two sprockets with a straight edge.
06 - Fit the edges of the shims between the large bushing and lugs Note how many go on each side.
Straight Edge
Lug
Shims


07 - Remove and re-install motor mount with the measured amount of shims in place.
Allow a small degree of float between motor mount bushing and shims.
08 - Recheck alignment of sprockets with straight edge.
09 - Tighten all hardware to proper torque specified.
Allow a small degree of float

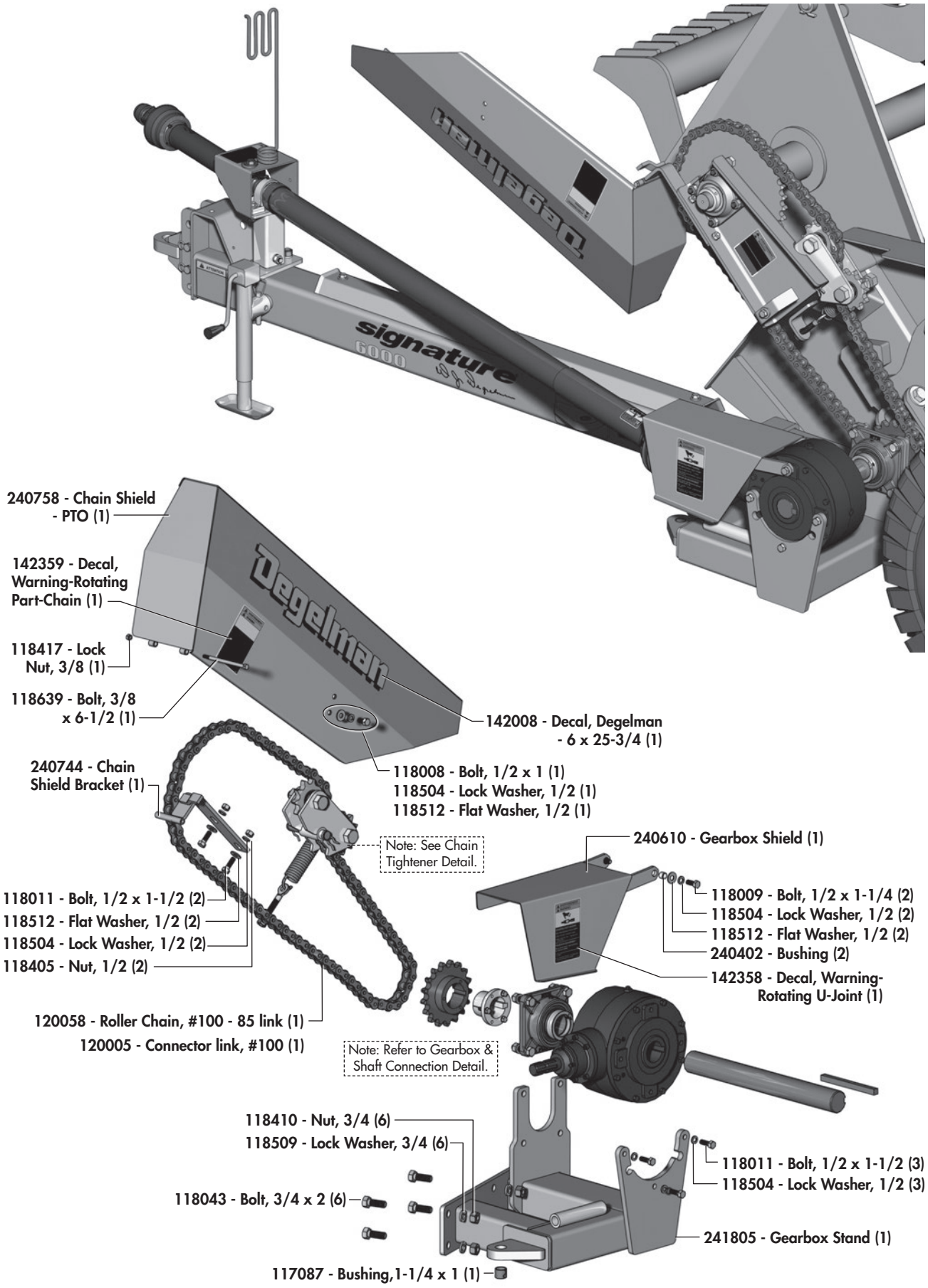

Allow 1/4" of chain slack
10 - Wrap Chain around sprockets. Join ends with connector link.
11 - Turn the large sprocket until there is the least amount of slack on the chain (a large sprocket will have minor variations in its radius).
12 - Adjust the chain tightener until there is about 1/4 inch of slack on the upper part of chain.
Chain Tightener


14 - Attach shield hinge to shield bracket bushing and bolt.
Shield Bracket
13 - Loosely bolt-on shield bracket onto reel support frame.

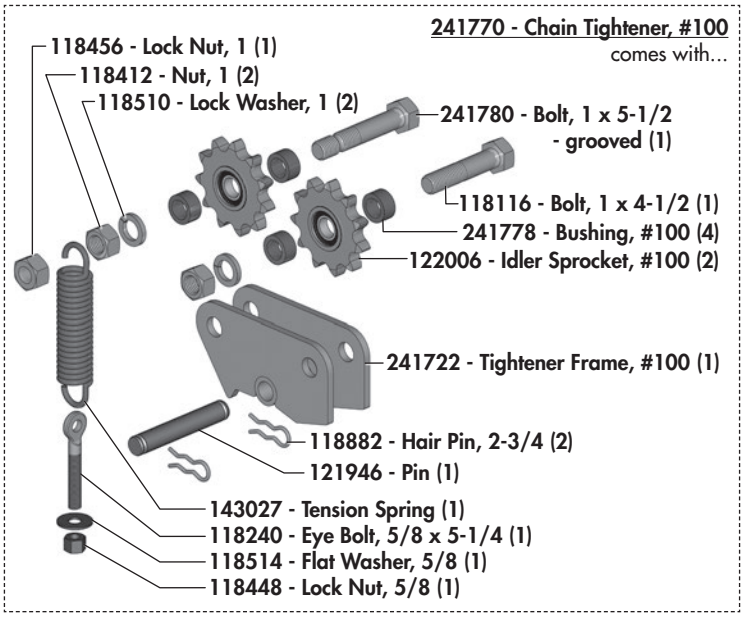


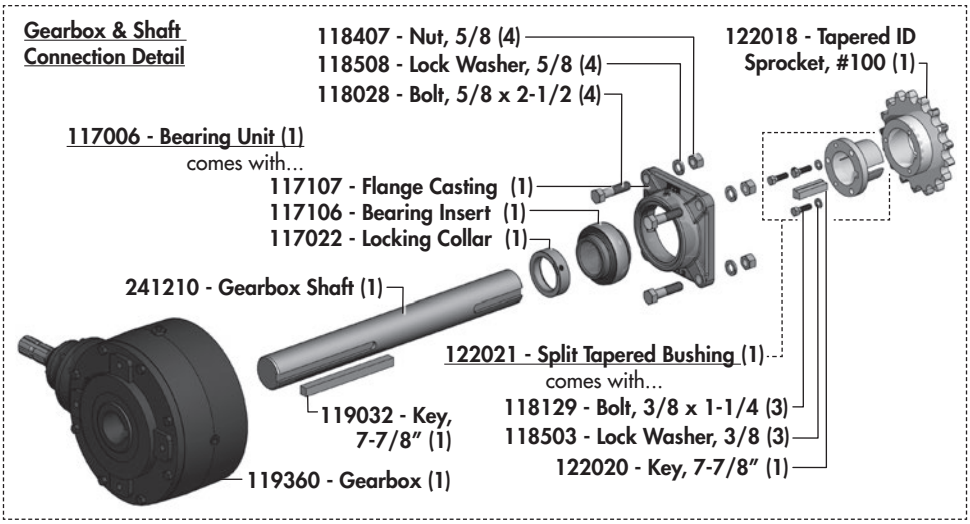


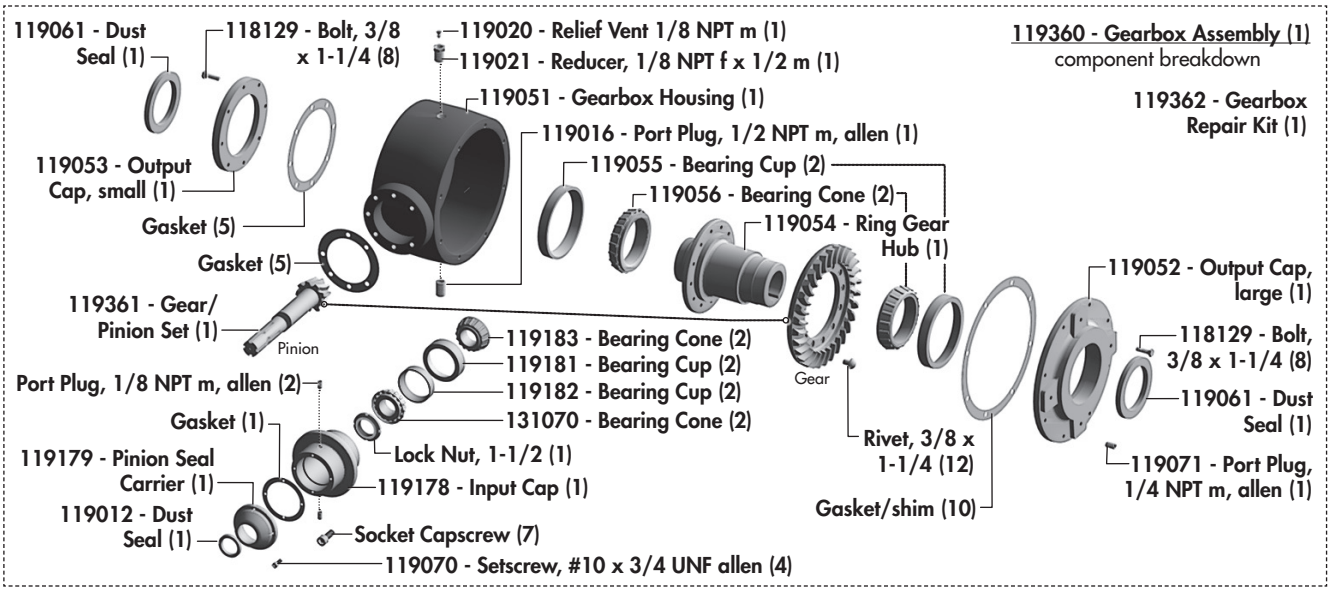
PTO Drive Components


240758 - Chain Shield - PTO (1)
142359 - Decal, Warning-Rotating Part-Chain (1)
118417 - Lock Nut, 3/8 (1)
118639 - Bolt, 3/8 x 6-1/2 (1)
142008 - Decal, Degelman - 6 x 25-3/4 (1)
118008 - Bolt, 1/2 x 1 (1)
118504 - Lock Washer, 1/2 (1)
118512 - Flat Washer, 1/2 (1)
240744 - Chain Shield Bracket (1)
Note: See Chain Tightener Detail.
240610 - Gearbox Shield (1)
118011 - Bolt, 1/2 x 1-1/2 (2)
118512 - Flat Washer, 1/2 (2)
118504 - Lock Washer, 1/2 (2)
118405 - Nut, 1/2 (2)
118009 - Bolt, 1/2 x 1-1/4 (2)
118504 - Lock Washer, 1/2 (2)
118512 - Flat Washer, 1/2 (2)
240402 - Bushing (2)
142358 - Decal, Warning-Rotating U-Joint (1)
120058 - Roller Chain, #100 - 85 link (1)
120005 - Connector link, #100 (1)
Note: Refer to Gearbox & Shaft Connection Detail.
118410 - Nut, 3/4 (6)
118509 - Lock Washer, 3/4 (6)
118043 - Bolt, 3/4 x 2 (6)
118011 - Bolt, 1/2 x 1-1/2 (3)
118504 - Lock Washer, 1/2 (3)
241805 - Gearbox Stand (1)
117087 - Bushing,1-1/4 x 1 (1)

PTO Drive Components

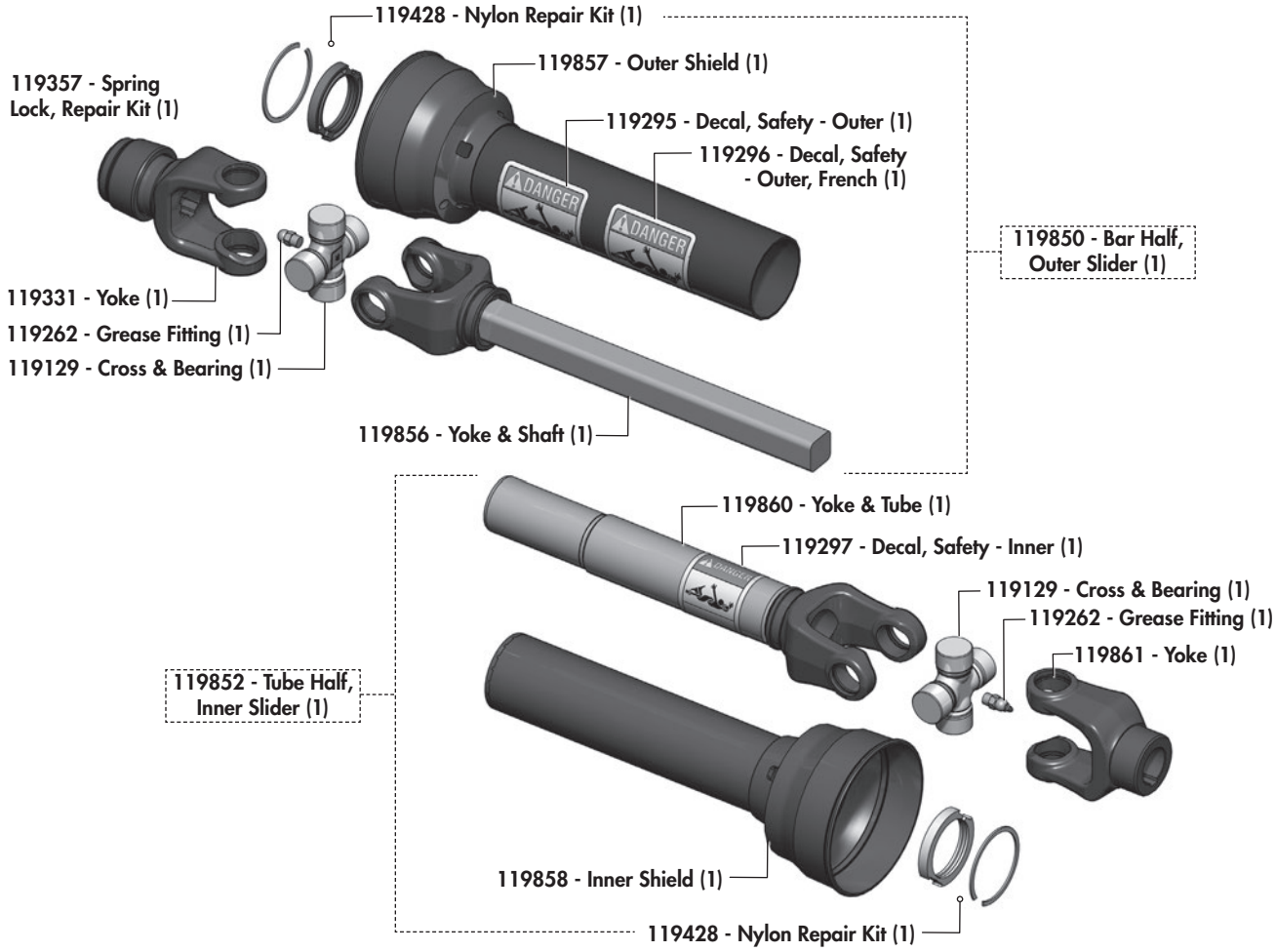

241770 - Chain Tightener, #100
comes with...
118456 - Lock Nut, 1 (1)
118412 - Nut, 1 (2)
118510 - Lock Washer, 1 (2)
241780 - Bolt, 1 x 5-1/2 - grooved (1)
118116 - Bolt, 1 x 4-1/2 (1)
241778 - Bushing, #100 (4)
122006 - Idler Sprocket, #100 (2)
241722 - Tightener Frame, #100 (1)
118882 - Hair Pin, 2-3/4 (2)
121946 - Pin (1)
143027 - Tension Spring (1)
118240 - Eye Bolt, 5/8 x 5-1/4 (1)
118514 - Flat Washer, 5/8 (1)
118448 - Lock Nut, 5/8 (1)


Gearbox & Shaft Connection Detail
118407 - Nut, 5/8 (4)
118508 - Lock Washer, 5/8 (4)
118028 - Bolt, 5/8 x 2-1/2 (4)
122018 - Tapered ID Sprocket, #100 (1)
117006 - Bearing Unit (1)
comes with...
117107 - Flange Casting (1)
117106 - Bearing Insert (1)
117022 - Locking Collar (1)
241210 - Gearbox Shaft (1)
122021 - Split Tapered Bushing (1)
comes with...
118129 - Bolt, 3/8 x 1-1/4 (3)
118503 - Lock Washer, 3/8 (3)
122020 - Key, 7-7/8" (1)
119032 - Key, 7-7/8" (1)
119360 - Gearbox (1)


119061 - Dust Seal (1)
118129 - Bolt, 3/8 x 1-1/4 (8)
119020 - Relief Vent 1/8 NPT m (1)
119021 - Reducer, 1/8 NPT f x 1/2 m (1)
119360 - Gearbox Assembly (1)
component breakdown
119051 - Gearbox Housing (1)
119362 - Gearbox Repair Kit (1)
119016 - Port Plug, 1/2 NPT m, allen (1)
119053 - Output Cap, small (1)
119055 - Bearing Cup (2)
119056 - Bearing Cone (2)
119054 - Ring Gear Hub (1)
Gasket (5)
Gasket (5)
119052 - Output Cap, large (1)
119361 - Gear/ Pinion Set (1)
Pinion
119183 - Bearing Cone (2)
119181 - Bearing Cup (2)
119182 - Bearing Cup (2)
131070 - Bearing Cone (2)
Gear
118129 - Bolt, 3/8 x 1-1/4 (8)
Port Plug, 1/8 NPT m, allen (2)
Gasket (1)
Lock Nut, 1-1/2 (1)
119061 - Dust Seal (1)
Rivet, 3/8 x 1-1/4 (12)
119179 - Pinion Seal Carrier (1)
119178 - Input Cap (1)
119071 - Port Plug, 1/4 NPT m, allen (1)
119012 - Dust Seal (1)
Socket Capscrew (7)
Gasket/shim (10)
119070 - Setscrew, #10 x 3/4 UNF allen (4)

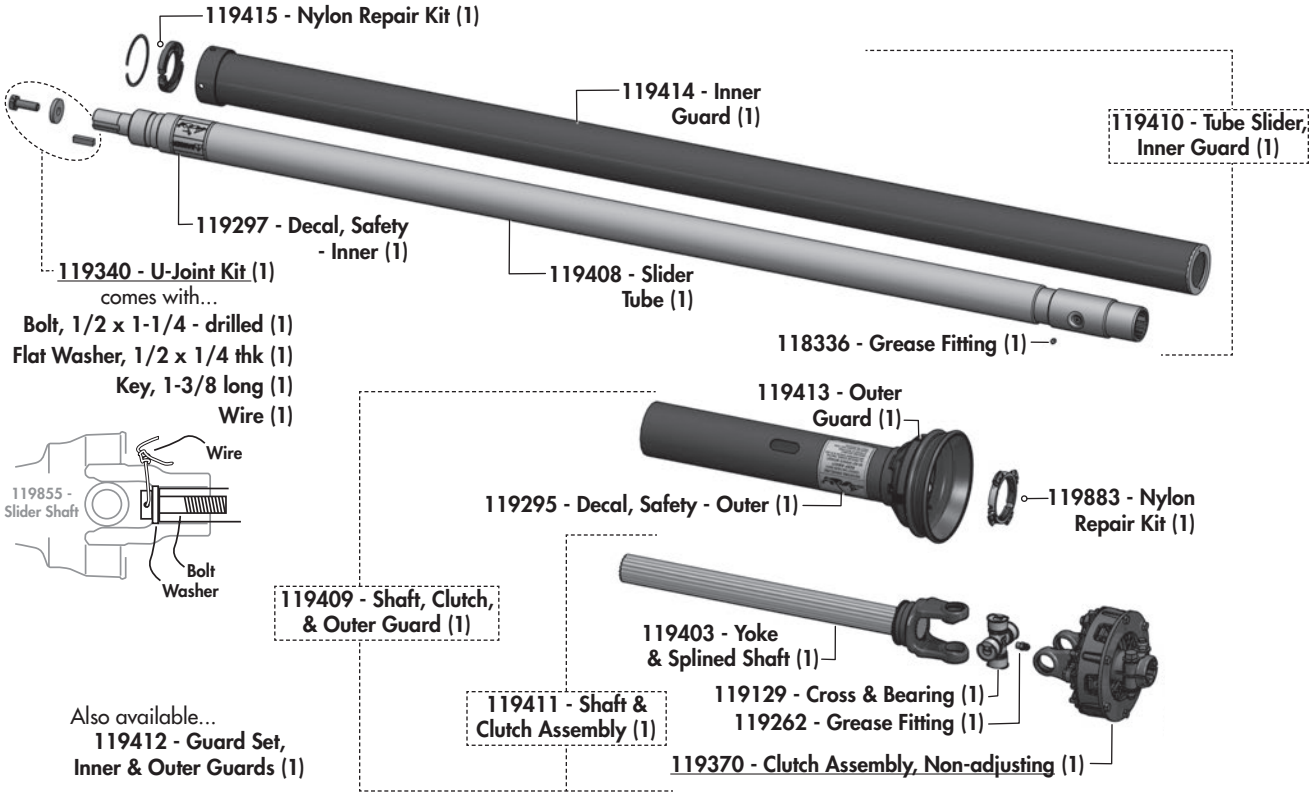
PTO Driveline Components

119855 - SLIDER SHAFT

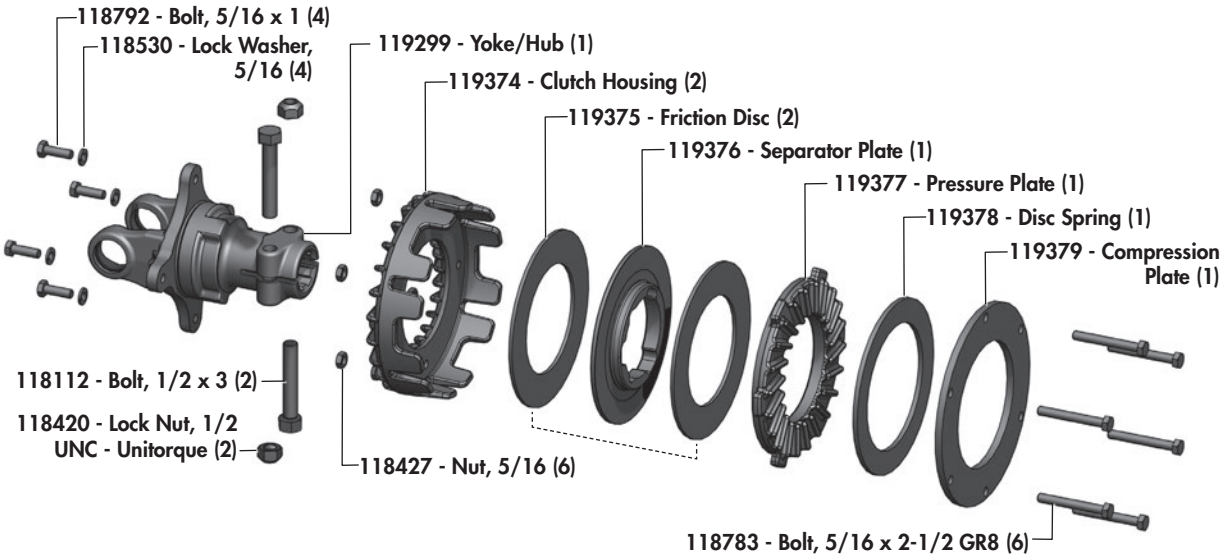

119428 - Nylon Repair Kit (1)
119857 - Outer Shield (1)
119357 - Spring Lock, Repair Kit (1)
119295 - Decal, Safety - Outer (1)
119296 - Decal, Safety - Outer, French (1)
DANGER
DANGER
119850 - Bar Half, Outer Slider (1)
119331 - Yoke (1)
119262 - Grease Fitting (1)
119129 - Cross & Bearing (1)
119856 - Yoke & Shaft (1)
119860 - Yoke & Tube (1)
119297 - Decal, Safety - Inner (1)
119129 - Cross & Bearing (1)
119262 - Grease Fitting (1)
119861 - Yoke (1)
119852 - Tube Half, Inner Slider (1)
119858 - Inner Shield (1)
119428 - Nylon Repair Kit (1)

PTO Driveline Components

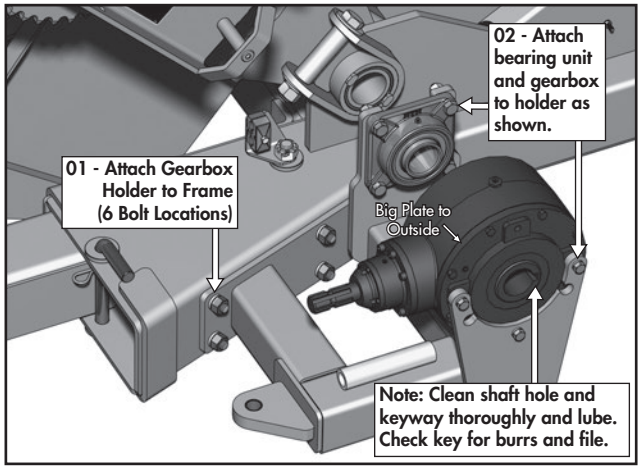
119400 - DRIVELINE SLIDER SHAFT

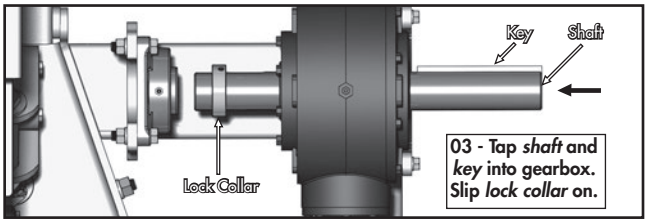

119415 - Nylon Repair Kit (1)
119414 - Inner Guard (1)
119410 - Tube Slider, Inner Guard (1)
119297 - Decal, Safety - Inner (1)
119340 - U-Joint Kit (1)
comes with...
Bolt, 1/2 x 1-1/4 - drilled (1)
Flat Washer, 1/2 x 1/4 thk (1)
Key, 1-3/8 long (1)
Wire (1)
119408 - Slider Tube (1)
118336 - Grease Fitting (1)
119855 - Slider Shaft
Wire
Bolt
Washer
119413 - Outer Guard (1)
119295 - Decal, Safety - Outer (1)
119883 - Nylon Repair Kit (1)
119409 - Shaft, Clutch, & Outer Guard (1)
119403 - Yoke & Splined Shaft (1)
119129 - Cross & Bearing (1)
119262 - Grease Fitting (1)
119411 - Shaft & Clutch Assembly (1)
119370 - Clutch Assembly, Non-adjusting (1)
Also available...
119412 - Guard Set, Inner & Outer Guards (1)

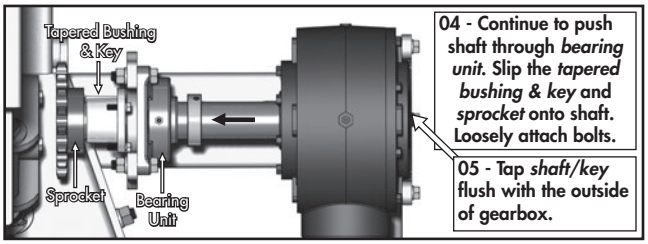
119370 - CLUTCH ASSEMBLY, NON-ADJUSTING

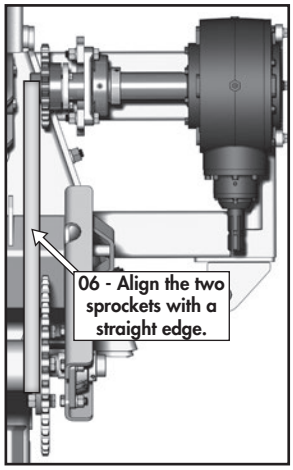

118792 - Bolt, 5/16 x 1 (4)
118530 - Lock Washer, 5/16 (4)
119299 - Yoke/Hub (1)
119374 - Clutch Housing (2)
119375 - Friction Disc (2)
119376 - Separator Plate (1)
119377 - Pressure Plate (1)
119378 - Disc Spring (1)
119379 - Compression Plate (1)
118112 - Bolt, 1/2 x 3 (2)
118420 - Lock Nut, 1/2 UNC - Unitorque (2)
118427 - Nut, 5/16 (6)
118783 - Bolt, 5/16 x 2-1/2 GR8 (6)

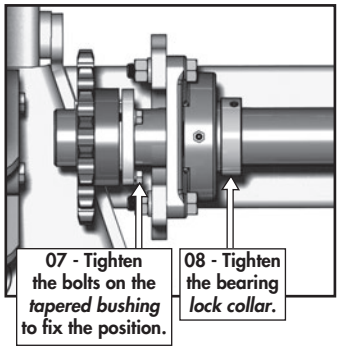
PTO Gearbox and Chain Installation

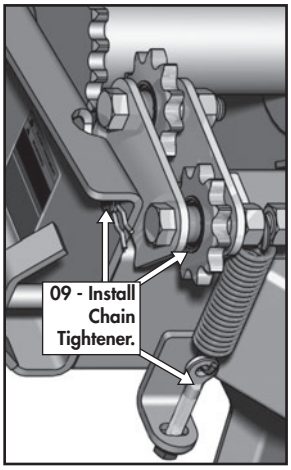

01 - Attach Gearbox Holder to Frame (6 Bolt Locations)
02 - Attach bearing unit and gearbox to holder as shown.
Big Plate to Outside
Note: Clean shaft hole and keyway thoroughly and lube. Check key for burrs and file.

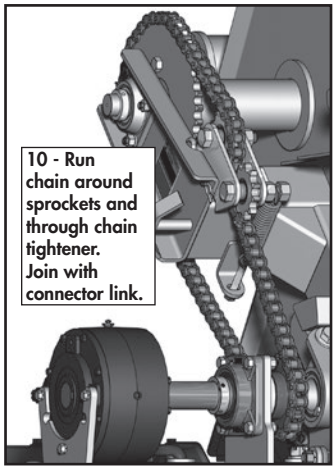


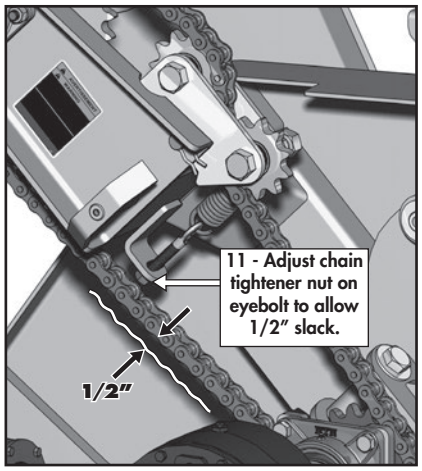

Tapered Bushing & Key
Sprocket
Bearing Unit
04 - Continue to push shaft through *bearing unit*. Slip the *tapered bushing & key* and *sprocket* onto shaft. Loosely attach bolts.
05 - Tap *shaft/key* flush with the outside of gearbox.

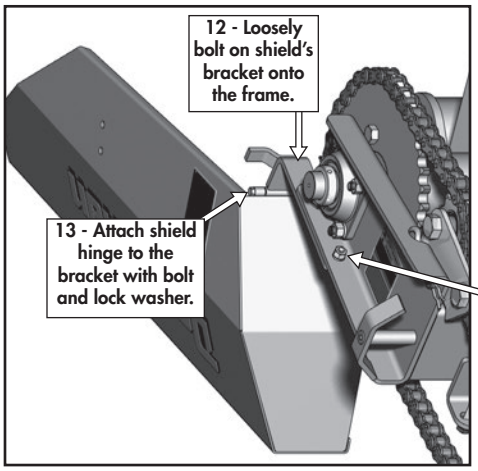


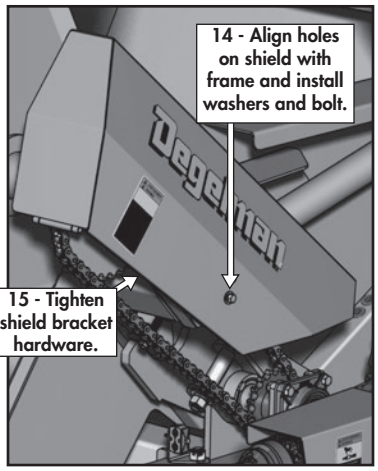




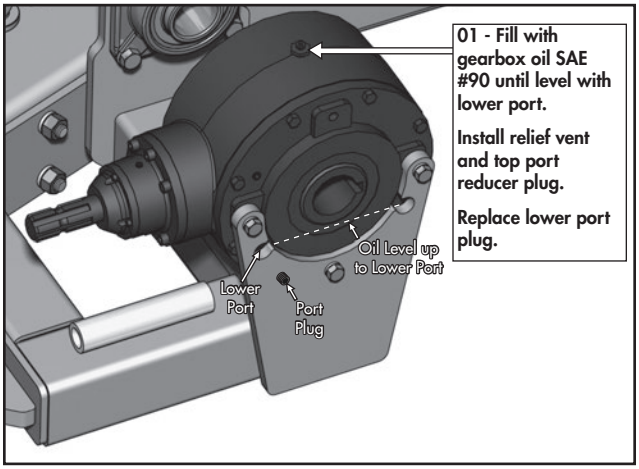


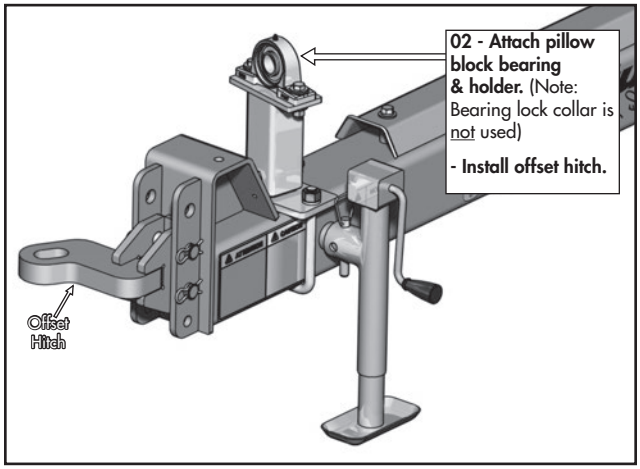


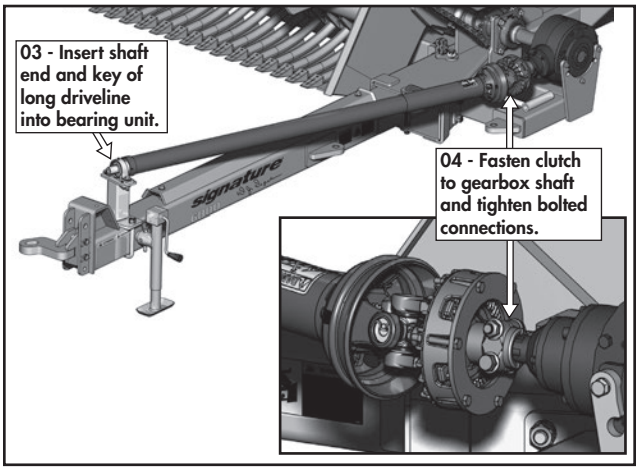

12 - Loosely bolt on shield's bracket onto the frame.
13 - Attach shield hinge to the bracket with bolt and lock washer.
15 - Tighten shield bracket hardware.

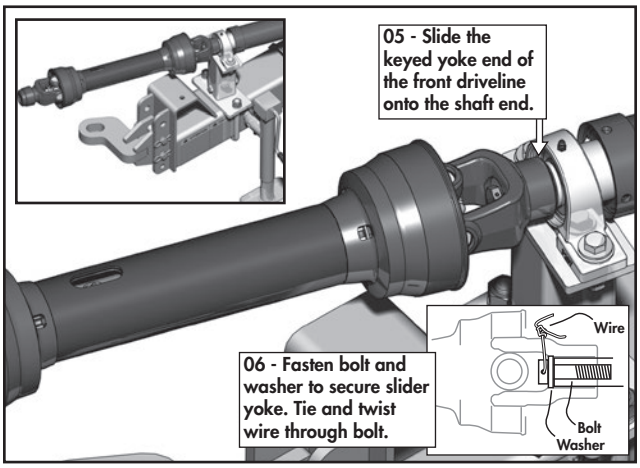


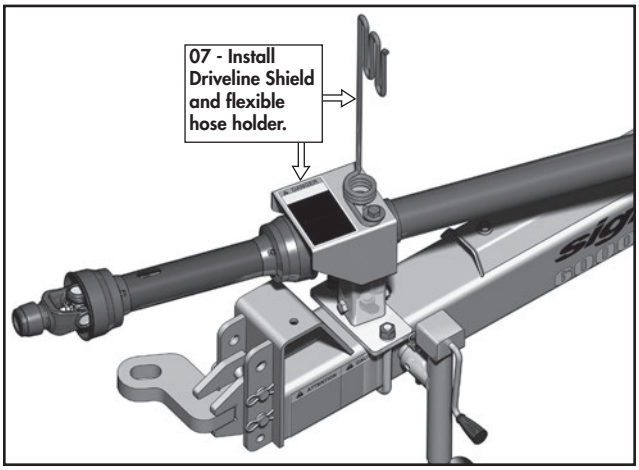
PTO Driveline Installation

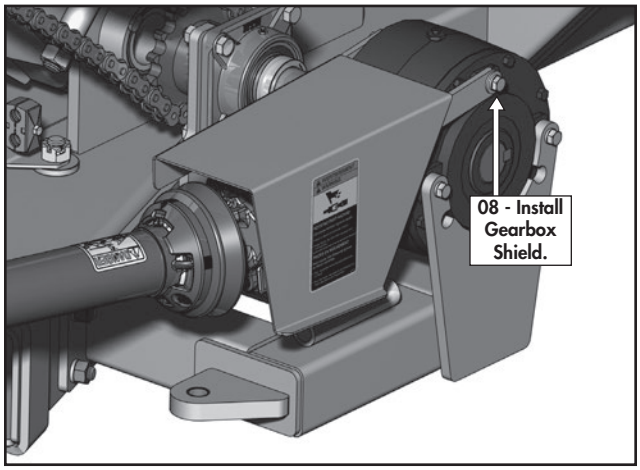

01 - Fill with gearbox oil SAE #90 until level with lower port.
Install relief vent and top port reducer plug.
Replace lower port plug.
Oil Level up to Lower Port
Lower Port
Port Plug



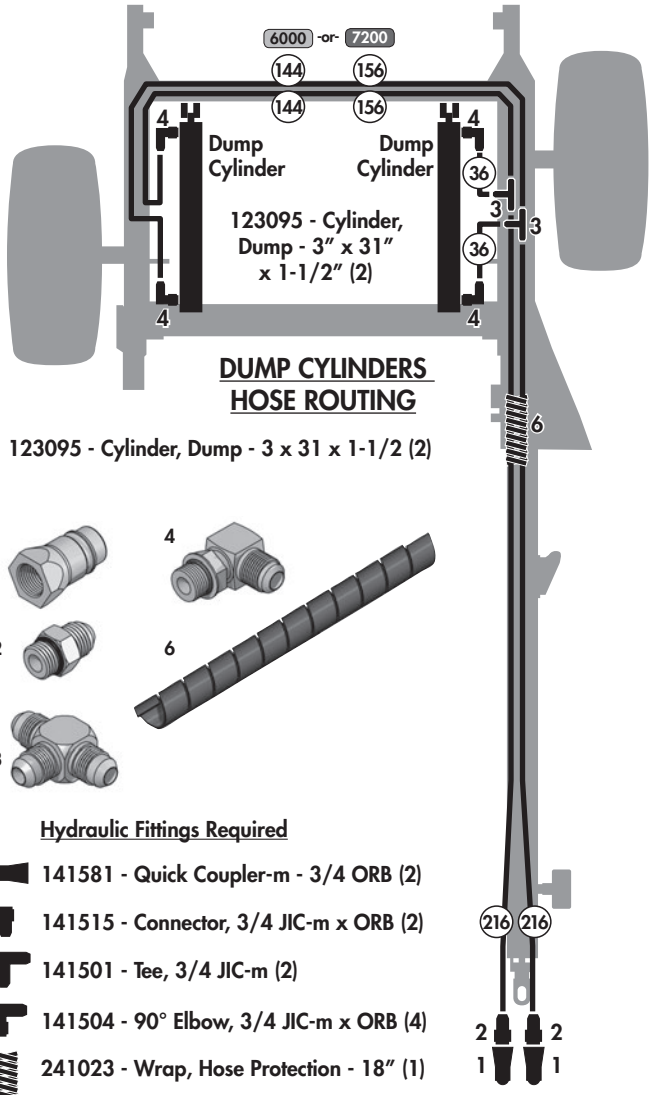

03 - Insert shaft end and key of long driveline into bearing unit.
04 - Fasten clutch to gearbox shaft and tighten bolted connections.


05 - Slide the keyed yoke end of the front driveline onto the shaft end.
06 - Fasten bolt and washer to secure slider yoke. Tie and twist wire through bolt.
Wire
Bolt
Washer





Hydraulic Routing - Dumping Cylinders



DUMP CYLINDERS HOSE ROUTING

123095 - Cylinder, Dump - 3 x 31 x 1-1/2 (2)

Hydraulic Fittings Required

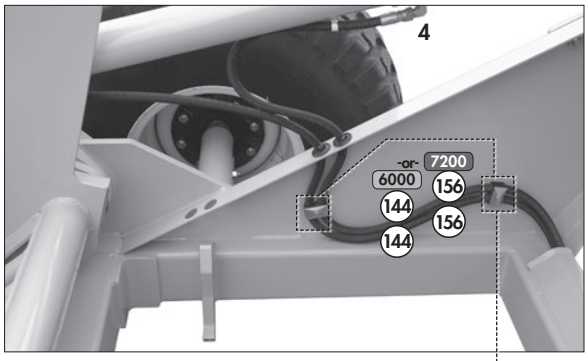
1 141581 - Quick Coupler-m - 3/4 ORB (2)

2 141515 - Connector, 3/4 JIC-m x ORB (2)

3 141501 - Tee, 3/4 JIC-m (2)

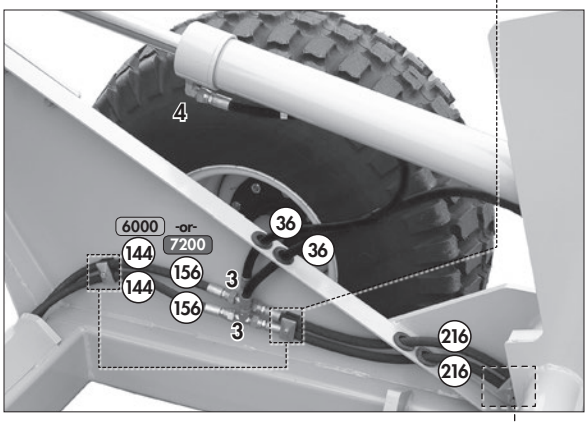
4 141504 - 90° Elbow, 3/4 JIC-m x ORB (4)

6 241023 - Wrap, Hose Protection - 18" (1)



Hose Clamps - 4 Places

118945 - Bolt, 5/16 x 2-3/4 (4)
780333 - Top Plate, 1/2" (4)
780332 - Hose Clamp, 1/2" (4)
118538 - Flat washer, 5/16 (4)
118530 - Lock washer, 5/16 (4)
118427 - Nut, 5/16 (4)



Front Inner Frame Hose Clamp - 1 Place

780333 - Top Plate, 1/2" (4)
118945 - Bolt, 5/16 x 2-3/4 (4)
780332 - Hose Clamp, 1/2" (4)

Required Hoses for Dump Cylinders

216 126582 - Hose, 1/2 x 216 (2)

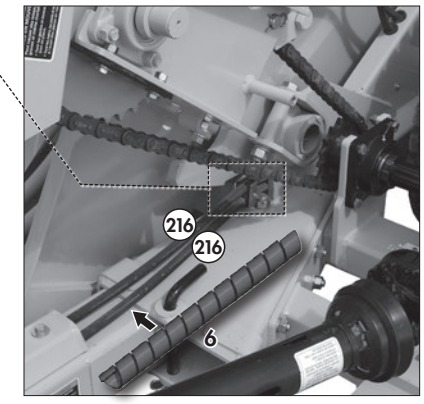
36 126570 - Hose, 1/2 x 36 (1)

144 126563 - Hose, 1/2 x 144 (2) 6000
- or -
156 126571 - Hose, 1/2 x 156 (2) 7200

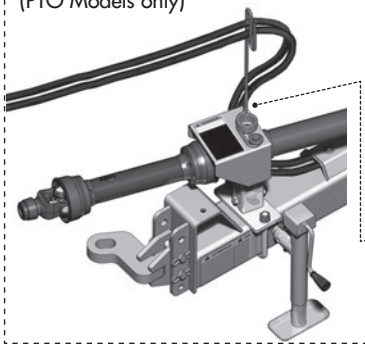
Hitchpole Bolt Clamp - 1 Place

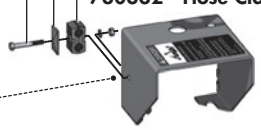
118427 - Nut, 5/16 (1)
118530 - Lock washer, 5/16 (1)
780332 - Hose Clamp, 1/2" (1)
780333 - Top Plate, 1/2" (1)
118105 - Bolt, 5/16 x 2-1/2 (1)

241542 - Hose Clip, bent (1)



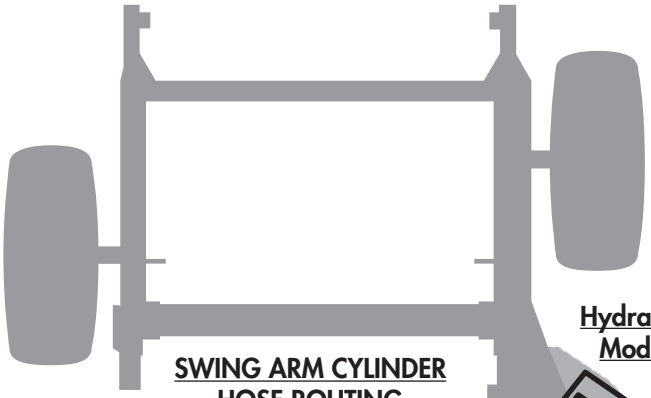
Shield Bolt Clamp - 1 Place
(PTO Models only)





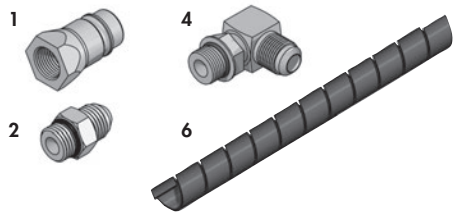
118945 - Bolt, 5/16 x 2-3/4 (1)
780333 - Top Plate, 1/2" (1)
780332 - Hose Clamp, 1/2" (1)
118530 - Lock washer, 5/16 (1)
118427 - Nut, 5/16 (1)

Hydraulic Routing - Swing Arm (Optional)



SWING ARM CYLINDER HOSE ROUTING

122741 - Cylinder, 3" x 10" x 1-1/4" (1)



Hydraulic Fittings Required

1 141581 - Quick Coupler-m - 3/4 ORB (2)

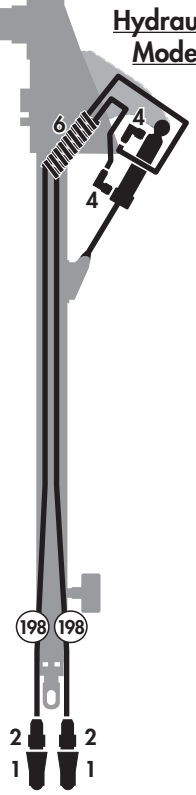
2 141515 - Connector, 3/4 JIC-m x ORB (2)

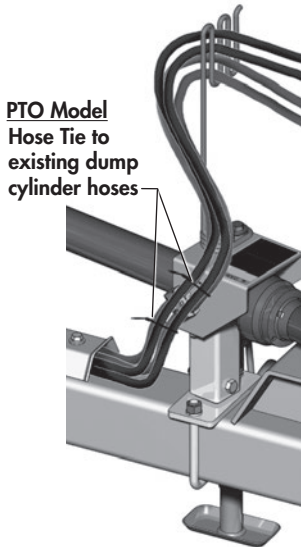
4 141504 - 90° Elbow, 3/4 JIC-m x ORB (2)

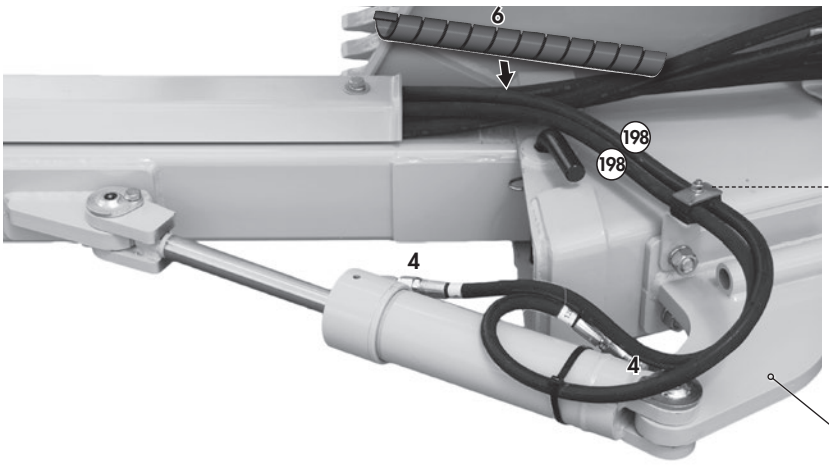
6 241023 - Wrap, Hose Protection - 18" (1)

Required Hoses for Swing Arm

(198) 126643- Hose, 3/8 x 198 (2)







Clamp Detail

118945 - Bolt, 5/16 x 2-3/4 (1)

780279 - Top Plate, 3/8" (1)

780278 - Hose Clamp, 3/8" (1)

241813 - Hose Clip Bracket (1)

118530 - Lock washer, 5/16 (1)

118427 - Nut, 5/16 (1)

241800 - Hyd Pole Bracket Assembly (1)

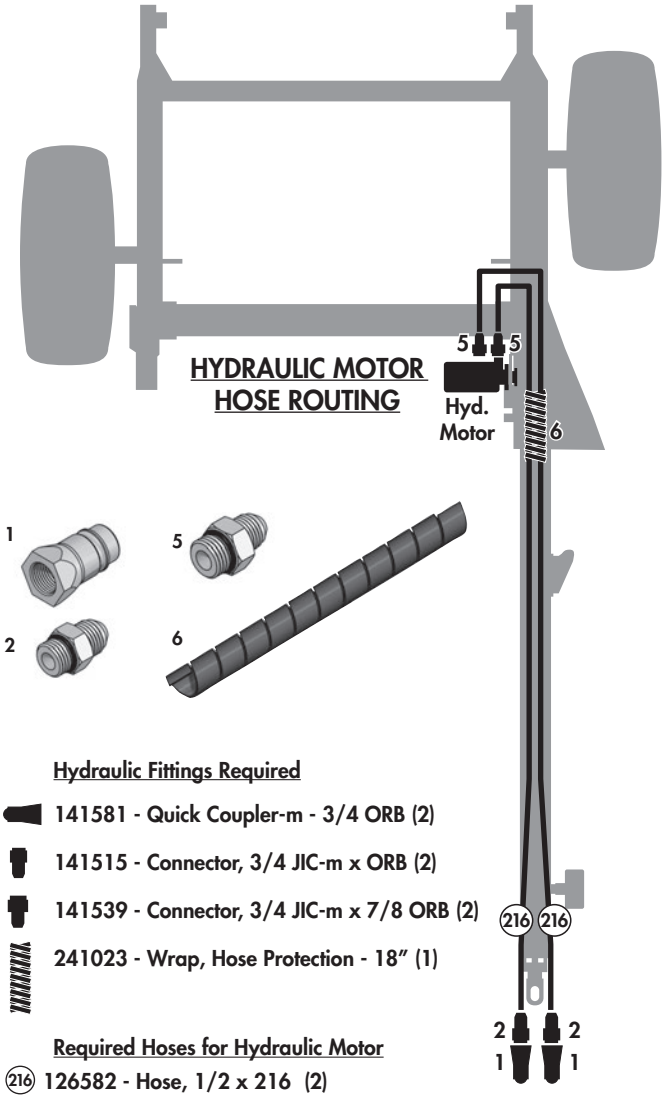
mounts with:

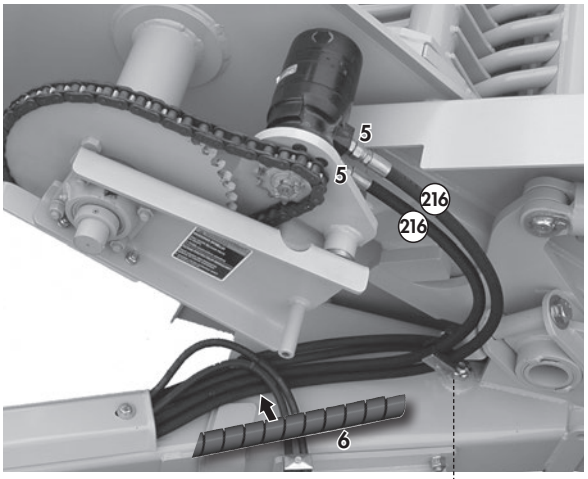
118043 - Bolt, 3/4 x 2 (4)

118509 - Lock Washer, 3/4 (4)

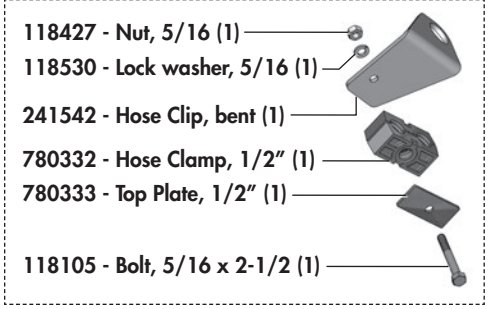
118410 - Nut, 3/4 (4)

Hydraulic Routing - Hydraulic Motor (Hyd. Option)





Clamp Detail



Hydraulic Fittings Required

1 141581 - Quick Coupler-m - 3/4 ORB (2)

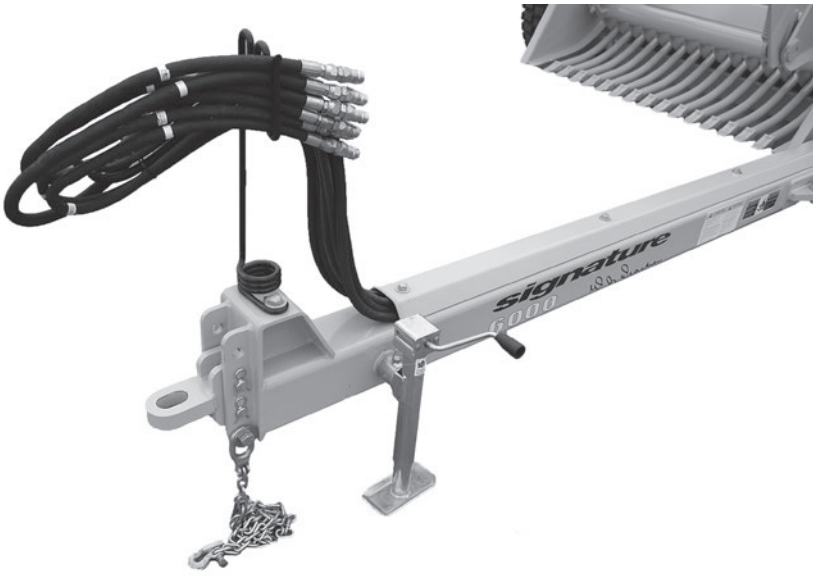
2 141515 - Connector, 3/4 JIC-m x ORB (2)

5 141539 - Connector, 3/4 JIC-m x 7/8 ORB (2)

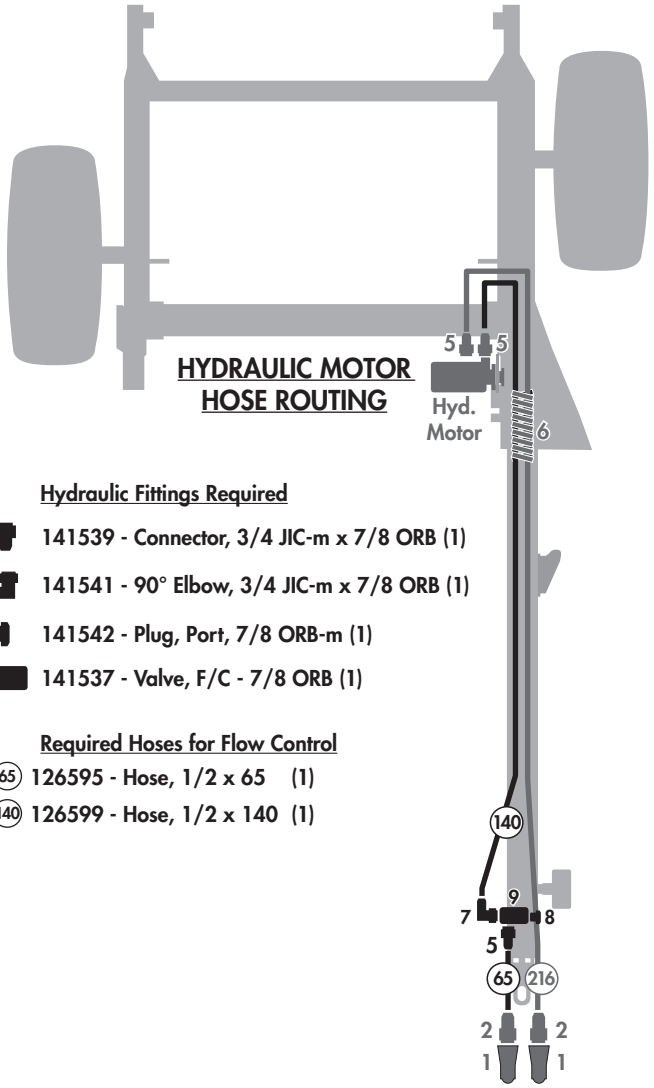
6 241023 - Wrap, Hose Protection - 18" (1)

Required Hoses for Hydraulic Motor

(216) 126582 - Hose, 1/2 x 216 (2)



Hydraulic Routing - Hyd. Flow Control (Optional)



Hydraulic Fittings Required

5 **141539 - Connector, 3/4 JIC-m x 7/8 ORB (1)**

7 **141541 - 90° Elbow, 3/4 JIC-m x 7/8 ORB (1)**

8 **141542 - Plug, Port, 7/8 ORB-m (1)**

9 **141537 - Valve, F/C - 7/8 ORB (1)**

Required Hoses for Flow Control

(65) **126595 - Hose, 1/2 x 65 (1)**

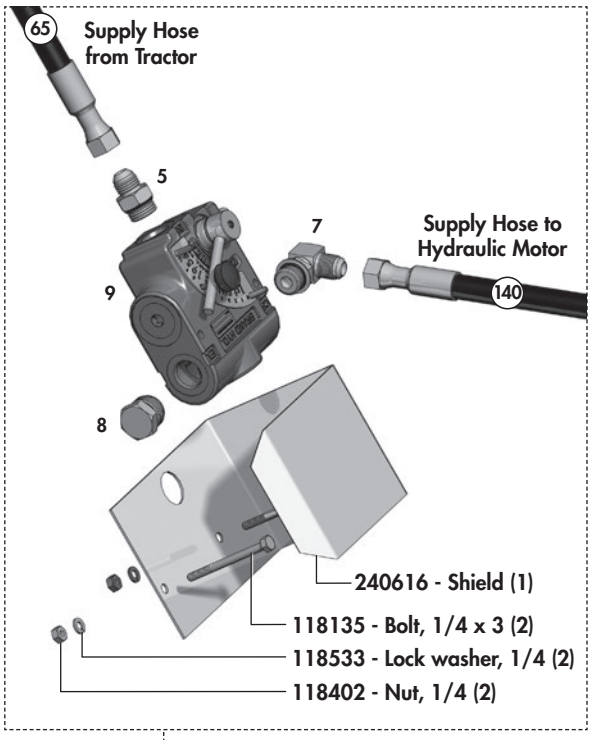
(140) **126599 - Hose, 1/2 x 140 (1)**

OPTIONAL FLOW CONTROL VALVE INSTALLATION

1. Using 1/4" x 3" bolts provided, attach flow control valve to hitch pole in the location shown.
2. Using hydraulic fittings supplied, route hydraulic supply line as follows:

   -Supply hose from tractor should be attached to the port at the top of the valve using nipple provided.

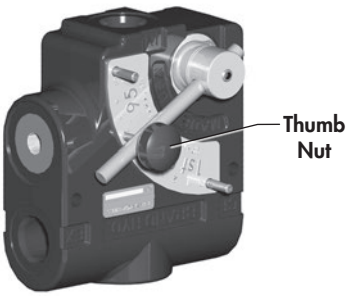
   -Supply hose to motor should be attached to the port at the side of the valve using elbow provided.
3. Plug other side hole in valve using plug provided.

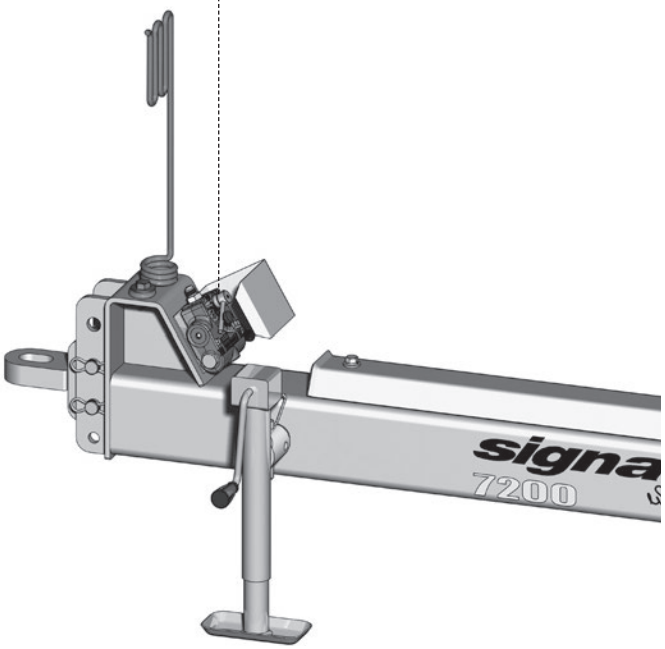


FLOW CONTROL VALVE ADJUSTMENT

1. Loosen thumb nut on swinging dial.
2. Move dial to desired setting.
3. Tighten thumb nut.

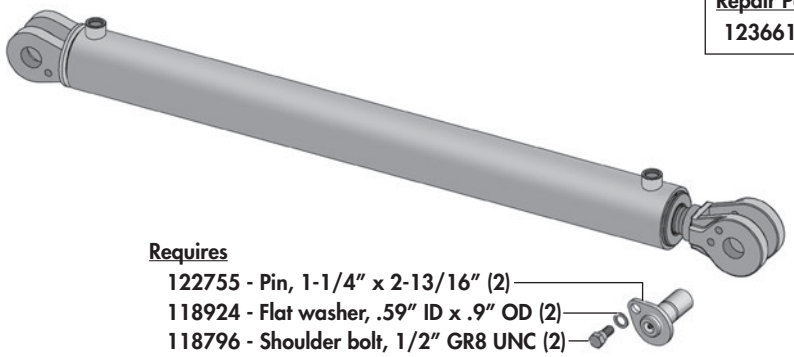
NOTE: Move the dial in small increments as a small movement can result in a dramatic speed change.





DUMP CYLINDERS (Standard - All Models)

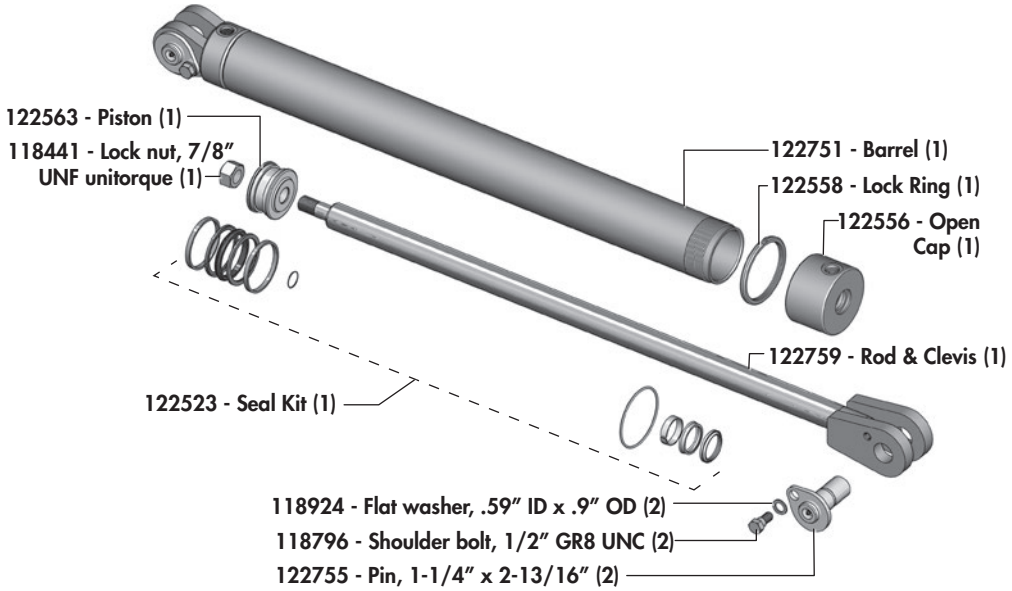
123095 - Cylinder, Dump - 3 x 31 x 1-1/2, Monarch (2)



Repair Parts
123661 - Seal Kit (1)

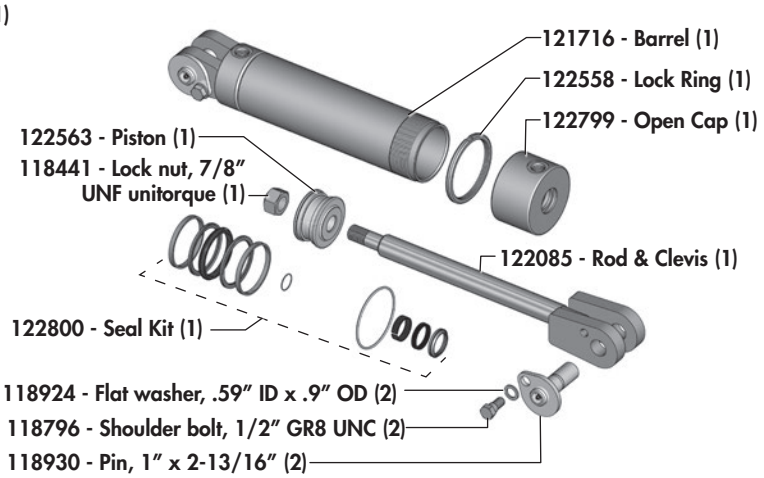
Requires
122755 - Pin, 1-1/4" x 2-13/16" (2)
118924 - Flat washer, .59" ID x .9" OD (2)
118796 - Shoulder bolt, 1/2" GR8 UNC (2)

(Previous Cylinder & Components) 122732 - Cylinder, Dump - 3 x 31 x 1-1/2 (2)


122563 - Piston (1)
118441 - Lock nut, 7/8" UNF unitorque (1)
122751 - Barrel (1)
122558 - Lock Ring (1)
122556 - Open Cap (1)
122759 - Rod & Clevis (1)
122523 - Seal Kit (1)
118924 - Flat washer, .59" ID x .9" OD (2)
118796 - Shoulder bolt, 1/2" GR8 UNC (2)
122755 - Pin, 1-1/4" x 2-13/16" (2)

SWING ARM CYLINDER (For Models with Swing Arm Option)

122741 - Cylinder, 3" x 10" x 1-1/4" (1)


121716 - Barrel (1)
122558 - Lock Ring (1)
122799 - Open Cap (1)
122563 - Piston (1)
118441 - Lock nut, 7/8" UNF unitorque (1)
122085 - Rod & Clevis (1)
122800 - Seal Kit (1)
118924 - Flat washer, .59" ID x .9" OD (2)
118796 - Shoulder bolt, 1/2" GR8 UNC (2)
118930 - Pin, 1" x 2-13/16" (2)

2 Year

Limited Warranty - Agricultural Products

Degelman Industries Ltd. ("Degelman") warrants to the original purchaser of any new Degelman equipment, purchased from an authorized Degelman dealer, that the equipment will be free from defects in material and workmanship for a period of two (2) years from the date of delivery, for non-commercial use (including farm, institutional, government, and municipality) and (1) year from the date of delivery for commercial use. The obligation of Degelman to the purchaser under this warranty is limited to the repair or replacement of defective parts in the first year and to the provision, but not the installation of replacement parts in the second year. Degelman reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

This warranty limits its replacement or repair coverage to what is consistent with the warranty of Degelman's suppliers of purchased components.

Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of delivery of such part or the expiration of the applicable new equipment warranty period, which ever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Degelman dealer during regular working hours. Warranted replacement parts will either be replaced or rebuilt at Degelman's discretion.

Disclaimer of implied warranties & consequential damages

This warranty shall not be interpreted to render Degelman Industries Ltd. liable for injury, death, property damage or damages of any kind, whether direct, consequential, or contingent to property. Without limiting the generality of the foregoing, Degelman shall not be liable for damages resulting from any cause beyond its reasonable control, including, without limitation, loss of crops, any expense or loss of labour, supplies, rental machinery or loss of use.

No other warranty of any kind whatsoever, express or implied is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale. This exclusion shall not apply in any jurisdiction where it is not permitted by law.

This limited warranty shall not apply:

1. If, in the sole opinion of Degelman, the unit has been subjected to misapplication, abuse, misuse, negligence accident or incorrect off-site machine set-up.
2. To any goods that have sustained damage or deterioration attributable to a lack of routine maintenance (eg. Check and Re-torque of fastening hardware, Hydraulic fluid purities, drive train alignments, and clutch operation)
3. If parts not made or supplied by Degelman have been used in the connection with the unit, if, in the sole judgement of Degelman such use affects its performance, safety, stability or reliability.
4. If the unit has been altered or repaired outside of an authorized Degelman dealership in a manner which, in the sole judgement of Degelman, affects its performance, safety, stability or reliability.
5. To expendable or wear items such as (eg. Harrow tines, Rock Picker and Rock Rake wear teeth and replaceable bushings and pins.) and any other items that in the company's sole judgement are a wear item.

No employee or representative of Degelman Industries Ltd. is authorized to change this limited warranty in any way or grant any other warranty unless such change is made in writing and signed by the Degelman Service Manager.

This limited warranty is subject to any future availability of supply, which may directly affect Degelman's ability to obtain materials or manufacture replacement parts.

Degelman reserves the right to make improvements in design or changes in specifications at any time, without incurring obligations to owners of equipment previously delivered.

This limited warranty is subject to compliance by the customer to the enclosed *Retail Customer's Responsibility Under Degelman Warranty.*

Retail Customer's Responsibility Under Degelman Warranty.

It is the retail customer and/or Operator's responsibility to read the Operator's Manual, to operate, lubricate, maintain and store the equipment in accordance with all instructions and safety procedures. Failure of the operator to read the operators manual is a misuse of this equipment.

It is the retail customer and/or operators responsibility to inspect the product and to have any part(s) repaired or replaced when continued operation would cause damage or excessive wear to other parts or cause safety hazard.

It is the retail customer's responsibility to deliver the product to the authorized Degelman dealer, from whom he purchased it, for service or replacement of defective parts, which are covered by warranty. Repairs to be submitted for warranty consideration must be made within forty-five days of failure.

It is the Retail Customer's responsibility for any cost incurred by the dealer for hauling of the product for the purpose of performing a warranty obligation or inspection.

WARRANTY INFORMATION

Make certain the warranty registration card has been forwarded to:

Degelman Industries Ltd.
Box 830 -272 Industrial Dr.
Regina, SK, Canada
S4P 3B1

Always give your dealer the serial number of your Degelman product when ordering parts or requesting service or other information.

The serial number is located on the machine as shown in the diagram below. In the space provided record the model number, the serial number and the date of purchase to assist your dealer in providing you with prompt and efficient service.

SERIAL NUMBER: _____

MODEL NUMBER: _____

DATE OF PURCHASE: _____